



# **2<sup>nd</sup> Biennial Conference 2024**

*held between April 16th and 17th*

**Theme**

**Office Administration and Information  
Management in the Digital Era**

## **Book of Proceedings**

**Edited by:**

**T. E. ADENEKAN**

**G. E. OYEDOKUN**

**O. J. IGE**

# **Proceedings of the 2nd National Institute of Office Administrators and Information Managers (NIOAIM) Biennial Conference 2024**

*Theme: Office Administration and  
Information Management in the Digital Era*

**Held between 16th and 17th April, 2024**

**Edited by:**

Associate Professor Tolulope E. ADENEKAN

Professor Godwin E. OYEDOKUN

Oluwaseye J. IGE

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Department of Information Management  
School of Communication and Information Science  
Lead City University, Ibadan, Nigeria  
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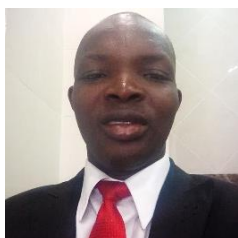
## Editors' Profiles



**Associate Professor Tolulope E. Adenekan** is a distinguished scholar, administrator, and entrepreneur with a remarkable track record of achievements. As Vice Chairman of the Board of Trustees and Executive President of the National Institute of Office Administrators and Information Managers (NIOAIM), she has demonstrated exceptional leadership and vision. With over two decades of experience in administration and information management, she has established herself as an expert in her field. Her impressive academic credentials include a Ph.D. in Information Resources Management (Business Information Management), an M.Sc. in Information Resources Management (Library and Information Science), from Babcock University, Nigeria, an M.Sc. in Business Administration (Office Technology and Management), and a B.Sc. in Secretarial Administration from Lead City University, Nigeria. She is currently undergoing studies for an M.S. in Technology Systems Management (Technology Management Option) at Stony Brook University, New York. Associate Professor Adenekan has an extensive list of publications in reputable journals and edited books, with over 50 contributions to her credit. She is a sought-after speaker and has presented papers at numerous national and international conferences. Her professional affiliations and memberships include fellowships and leadership roles in various alumni and professional associations. She is also the CEO of Liprorich Consulting Ltd. and the founder and pioneer president of NIOAIM. Throughout her career, Associate Professor Adenekan has demonstrated a passion for skill acquisition, career counseling, and youth development. Her commitment to excellence and dedication to her field are truly inspiring, making her a role model for professionals and academics alike.



**Professor Godwin E. Oyedokun** is a multi-talented and multidisciplinary scholar-practitioner of good repute with over 23 years of experience in accounting and finance. He holds multiple advanced degrees and various postgraduate degrees in accounting, finance, and forensic accounting from Olabisi Onabanjo University, Babcock University, and Charisma University. Prof. Oyedokun is a forensic accountant, public policy analyst, author, international speaker, Professor of Accounting & Financial Development at Lead City University, Ibadan, Nigeria, and a visiting professor at several institutions, including Charisma University and Coal City University. He is a Visiting Professor of Forensic Accounting & Finance at Charisma University, Turks & Caicos Island, West Indies, UK. He is a visiting Professor at the Department of Management Science of Coal City University, Enugu; an Adjunct Professor of Accounting & Finance at both McPherson University, Seriki-Sotayo, and Crawford University, Igbesa, Ogun State, Nigeria. He was an Adjunct Professor at the Department of Accounting, Igbinedion University, Okada, Nigeria, and formerly a Senior Lecturer in the Department of Accounting and Department of Taxation at Nasarawa State University, Keffi. Likewise, Professor Oyedokun is an Adjunct Lecturer at Babcock University and South-Western University, a faculty member at the Joseph Business School Chicago/Lagos, and an international faculty member at the Mississippi State University's Continue Education programmes in Lagos.



**Oluwaseye J. IGE** is a Research Assistant and Adjunct Lecturer at the Department of Office Technology and Management (OTM), Yaba College of Technology (YabaTech), Yaba, Lagos State. He was a Personal Assistant to one of the Senior Lecturers at Lagos Business School (LBS), Lekki-Ajah, Lagos. He has over 20 years of work experience in office administration, management, and HR. Oluwaseye is currently observing his M.Sc., last semester, in Office & Information Management (OIM) at Lead City University, Ibadan, Nigeria, after he graduated from the same university with a First Class Honour in Office & Information Management (OIM). He obtained a Higher National Diploma (HND) with a Distinction in Office Technology & Management (OTM) and an Upper Credit National Diploma (ND) in Secretarial Studies from YabaTech. He has written over thirty (30) academic articles and presented papers at different international and local conferences. He also co-authored two academic books with other senior lecturers. He is presently the General Secretary of the National Institute of Office Administrators and Information Managers (NIOAIM) and the International Journal of Office Administration and Information Management (IJOAIM), respectively.



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## **Foreword**

I feel honoured to be Chairman of the Conference, to introduce the proceedings of the 2nd Biennial Conference of the National Institute of Office Administrators and Information Managers (NIOAIM), held virtually on April 16 and 17, 2024. This conference brought together a distinguished gathering of scholars, administrators, and professionals to explore the vital theme: "Office Administration and Information Management in the Digital Era."

I equally extend my sincere appreciation to our esteemed hosts, Professor K.A. Adeyemo and Dr. Tolulope E. Adenekan, for their exceptional leadership and dedication to ensuring the conference's success. Our esteemed Keynote Speaker, Professor Yomi Akindele-Oscar, and Lead Paper Presenters, Professor Adeyinka Tella and Professor Lawrence F. Ademiluyi, deserve special recognition for their insightful contributions.

NIOAIM has consistently demonstrated its commitment to advancing Office Administration and Information Management, empowering its members through academic exposure, professional networking, knowledge-sharing, and skill enhancement initiatives.

This conference proceedings capture the essence of the conference, documenting the presentations, discussions, and collective pursuit of excellence in the digital landscape. We are confident that these insights will serve as a valuable resource for professionals in Office Administration and Information Management, inspiring continuous learning, employability, and professional growth.

This conference not only embraced the digital age's evolving trends and innovations but also celebrated the individuals who shape the future of Office and Information Management. We invite you to explore these proceedings and gain valuable insights from the collective wisdom shared. May these deliberations inspire you to contribute to a future where Office Administrators and Information Managers are recognized for their significant contributions in the digital era.

**G.O. Saliu, *fspsp*, MANUPA, MNIM, MAUA**  
**Registrar, University of Ibadan**  
**Chairman, NIOAIM Biennial Conference, 2024**

## Preface

It is my pleasure to introduce the proceedings of the National Institute of Office Administrators and Information Managers Biennial Conference, held between April 16 and 17, 2024. This conference brought together office administrators and information managers from across the country to share knowledge, experiences, and best practices in the office and information management fields. The conference featured the addresses of the chief host, Prof. Kabiru Aderemi Adeyemo, the Vice-Chancellor of Lead City University, Ibadan; the chairman of the conference, Mr. G.O. Saliu, the Registrar of the University of Ibadan; a welcome address by Associate Professor Tolulope Adenekan, the President of NIOAIM; and a keynote presentation by Prof. Yomi Akindele Oscar, a renowned administrator who is the Director of Quality Assurance at Olabisi Onabanjo University at Ago-Iwoye, which sets the tone for the event with their insightful and thought-provoking addresses. Additionally, two lead paper presenters, Lead Paper Presenter I, Prof. Adeyinka Tella, Head, Department of Library and Information Science, University of Ilorin, and Lead Paper Presenter II, Associate Professor Lawrence Ademiluyi, Head, Department of Business and Entrepreneurship Education, Kwara State University, Malete, Kwara State, shared their research and expertise on critical office and information management topics.

The conference scope was broad, covering various aspects of office administration and information management, including office administration in a rapidly changing landscape, adapting administrative processes to technological disruptions, cross-cultural communication challenges in the digital age, measuring performance metrics in organisations, social equity in access to digital tools for information management, and more. The speakers and authors who contributed to this proceedings book have provided valuable insights, practical solutions, and innovative ideas that will benefit office administrators and information managers in their daily work.

We thank the chief host, chairman, keynote speaker, lead paper presenters, and all authors who contributed to this proceedings book. We greatly appreciate your expertise, time, and effort. We also appreciate all members of the biennial conference planning committee, NIOAIM executive members, and the technical crew's commitment. Thanks and acknowledgments are also due to Prof. Godwin Oyedokun, Dr. Mrs. Charlotte Bose Iro-idoro, Dr. Sophia Adeyeye, Dr. Tajudeen Jimoh, Mr. Oluwaseye Ige, Mrs. Oluwakemi Ibironke, Mr. Fred Awomuse, Mrs. Olanike Ahamze, and the technical crew for the conference, Mr. Olumuyiwa Ojo, Mr. Abdulrahmon Adeyemi, and Mr. Daniel Awodele, for their support and assistance during the conference and the preparation of this book.

This proceedings book will serve as a useful resource for office administrators and information managers, as well as inspire further research, collaboration, and innovation in our fields.

Thank you.

**Associate Professor Tolulope E. Adenekan, FNIOAIM, fips, MNIM, ACIPM**  
*President, NIOAIM*

## **Conference Communique**

### **Opening Address by the Chief Host, Prof. Kabiru Adeyemo, the Vice Chancellor, Lead City University, Ibadan**



The 2nd NIOAIM Biennial Conference was declared open by Prof. Kabiru Adeyemo, the Vice Chancellor, Lead City University, Ibadan. He welcomed all participants to the conference and emphasised the need for the conference at this time. He was glad to see distinguished individuals gathered to explore the transformative potential of digital technologies to enhance business activities and operations in today's modern offices. According to him, in the digital age, the way we work, collaborate, and manage information is advancing daily due to the invention of new technological tools that could easily drive the digital world. He stated further that the conference would help to delve into the opportunities and challenges presented by the digital transformation, and profitable solutions would be suggested. Prof. Adeyemo encouraged participants to be actively informed in the conference and to freely share their views, thoughts, experiences, insights, ideas, and best practices necessary to navigate the complexities of office and information in the digital era. He also urged participants to engage in meaningful dialogue with others and collaboratively chart a path forward towards building more efficient, effective, agile, and resilient organisations in the digital age. Prof. Adeyemo expressed his heartfelt gratitude to the Institute's Board of Trustees, President and Executive Team, Conference Planning Committee Members, all NIOAIM members, and participants. As he declared the conference open, he wished everyone an insightful, stimulating, interesting, and fruitful conference experience.

**NIOAIM Welcome Address was delivered by the NIOAIM President, Associate Professor Tolulope E. Adenekan, the Vice Chairman of the Board of Trustees, and the Executive President of NIOAIM, Associate Professor, Department of Information Management, Lead City University, and HR Administrator, AHRC Nassau, New York)**



In her welcome address, Dr. Adenekan acknowledged the presence of the Pro-Chancellor of Lead City University and BOT Chairman of NIOAIM, Prof. Jide Owoye, the Chief Host, the Registrar of the University of Ibadan, and other dignitaries, awardees, the NIOAIM Executive Team, Conference Planning Committee Members, NIOAIM Members, all participants, and gentlemen of the press. She affirmed that this was the day the Lord had made. She appreciated the efforts of the Executive Members and the 2nd Biennial Conference Planning Committee Members, who made this conference a reality. Dr. Adenekan stated that the ultimate aim of the NIOAIM is to bring the attention of the world to the beautiful roles that Office Administration and Information Management, as well as their practitioners, play in the modern administrative system. She extensively stated the specific objectives of the institute. According to her, the conference theme is ***“Office Administration and Information Management in the Digital Era,”*** and the professional development workshop is themed ***“Navigating the Complex Work Environment with Your Intelligence.”*** She further said, with her twenty-four (24) years of experience in this professional field, she has witnessed the transformative power of digital tools and data-driven decision-making in modern offices. She recognized the need for agile and adaptable office administrators who can harness technology to propel business success.

Dr. Adenekan was excited to lead a community of like-minded individuals and learn from experienced members and faculty who can share expertise in navigating the digital landscape. She believed strongly that the conference would enable participants to increase their intelligence, which would drive organisational efficiency, enhance information flow, and foster collaborative work environments. She also has confidence that this conference will equip participants with the expertise and networking opportunities to make a lasting impact in the world of office administration and information management. She believes that the academic presentations and professional development workshops will significantly contribute to achieving the goals of the esteemed institute and enhancing the status of office administration and information management in Nigeria. She wished everyone an eventful and impactful conference.

**The Chairman's Address was delivered by Mr. G. O. Saliu (MANUPA, MNIM, MAUA, Registrar, University of Ibadan)**



Mr. Saliu was so excited to be the chairman of the conference. According to him, the conference theme, "*Office Administration and Information Management in the Digital Era*," could not be timelier. He explained that as we navigate the complexities of the digital age, we must equip ourselves with the knowledge and skills necessary to thrive in an ever-evolving landscape. He stated that NIOAIM has been at the forefront of this endeavour since its establishment in November 2020. Through academic exposure, networking, knowledge sharing, and skill enhancement, the institute has fostered career development and professional mentoring among its members. The Chairman believed the objectives set forth by the institute are not only commendable but essential for the continuous growth and relevance of our profession. He advised all the participants, special guests, and scholars to commit themselves to embracing the evolving trends and innovations that shape today's mode of study and practice. He advised that every individual should seek out opportunities that could enhance employability and competencies. He is of the belief that the recognition and celebration of individuals who impart their knowledge and skills could sharpen the future of office and information management. From the inception of basic computing to the sophisticated landscape of Digital Age 5.0, technology's trajectory has been nothing short of extraordinary.

The Chairman stated further that society has transitioned from the simplicity of early internet access to the complexities of e-commerce and social media, which have redefined our interactions and commerce. The advent of big data and communicative smart devices ushered in an era of artificial intelligence and virtual reality, catalyzing cutting-edge developments like self-driving cars and customized medical treatments. His sincere advice was that as we wield the capabilities of highly advanced computers, our collective mission is to employ these innovations with integrity, tackling monumental challenges such as climate change and social justice to pave the way for a responsible and equitable digital future. He prayed that our deliberations during the conference would be fruitful and that all individuals' collective efforts would lead to greater recognition, respect, and excellence in our field.



### **Keynote Presenter's Address**

**The Keynote Address was delivered by Prof. Yomi Akindele-Oscar, Director of Quality Assurance, Olabisi Onabanjo University, Ago-Iwoye.**



Prof. Akindele-Oscar spoke on the topic “Office Administration and Information Management in Nigeria in the Digital Era: Choice or Necessity?” Prof. Akindele-Oscar reported that the world will be transiting into the Digital Era from 2024 to 2040 with the integration of digital technologies into every part of every individual life and in our workspaces. He explained that the Digital Era is the present time when digital technologies like computers, the internet, mobile phones, and cloud computing

(the use of hosted services such as data storage, servers, databases, networking, and software over the internet) are widely used and adopted. According to him, office administrators are office personnel who run smooth organisational offices and contribute effectively to driving sustainable growth by coordinating office activities and operations to secure efficiency and compliance with company policies, supporting budgeting and booking procedures, tracking stock of office supplies and placing orders when necessary, managing agendas, and making travel arrangements and appointments, among others. He further explained the cognitive skills they must acquire, such as problem solving, analytical skills, computing and numeracy, critical thinking, quick learning, knowledge of office and information management procedures, excellent knowledge of MS Office and office management software, and many more.

In addition, Prof. Akindele-Oscar threw more light on the emotional skills they should possess, such as self-motivated, trustworthy, resiliency, and interpersonal skills; paying attention to details; and self-awareness; and for leadership skills, he expected them to demonstrate excellent decision-making, organisational, self-initiative, and effective verbal and non-verbal communication skills. He extensively discussed the components of information management, such as people, policies and processes, technology, data, and information, and their relevant roles. In addition to this, he threw more light on technological infrastructures like database software, intranet infrastructures, automation, and artificial intelligence. He advised every individual not to be allergic to learning new things or making corrections. He ended his lecture with a quote: “He who learns today and stops learning tomorrow is uneducated the day after!”

## **Lead Paper 1**

**Prof. Adeyinka Tella, Head, Department of Library and Information Science, University of Ilorin, Nigeria**



Prof. Tella delivered a lecture on the topic, “Office Administration and Information Management in the Digital Era.” In his lecture, he said today’s office management and administration have traversed a dynamic business environment where automation and digital tools are essential to streamlining workflows. He explained that information management (IM) is an essential component of contemporary office administration (OA), and in the digital age, there should be a link between information management and office administration rather than just increasing productivity. According to him, based on this, experts in these domains (OA and IM) must negotiate the digital terrain with a clear grasp of both administrative concepts and the specifics of securely managing digital information. He further explained that today’s office administration and management are enhanced with the use of digital tools such as digital communication and collaboration, cloud-based document management, project management software, automation of administrative processes, digital scheduling and calendar tools, chatbots and virtual assistants, human resources information systems (HRIS), cybersecurity measures, data analytics and reporting tools, mobile accessibility, online platforms for professional development and training, and data security and compliance tools, among others.

Professor Tell laid more emphasis on the importance of training and development in the rapidly changing digital landscape that would help employees adapt to technological changes, improve their work performances, have a competitive edge in the labour market, be ready for cybersecurity, navigate the global space and work remotely, and develop the agility and flexibility needed to perform effectively and efficiently in today’s business world. In his affirmation, when professional development is provided, employee engagement and retention are relatively high. He, therefore, recommended that every organisation should invest heavily in employee training, embrace agile work methods, put strong security measures in place and examine sustainable practices, keep up with regulatory changes, create an innovative culture and work environment, put employee well-being first, assess and modify the technology stack, and ensure employees work together with cybersecurity professionals, among others.

## Lead Paper 2

**Dr. Lawrence F. Ademiluyi, Associate Professor and Head, Department of Business and Entrepreneurship Education, Kwara State University, Molete, Kwara State.**



Dr. Ademiluyi presented a paper titled "Trends, Opportunities, and Challenges of Office Administration in the Era of Automation and Artificial Intelligence." In his delivery, the world is at the threshold of new possibilities and new realities in all aspects of human life. The traditional office practices have been outpaced by the new digitalized practices, as employees could perform their official duties in their living room without their physical presence in their

various offices. He extensively reviewed the evolution of the office from 1880 to the current digital age. He further explained the importance of artificial intelligence in our modern offices and the various challenges offices could encounter while adopting modern technologies. According to Dr. Ademiluyi, with the use of virtual reality, individuals can attend meetings, conferences, and workshops at the same time and still be satisfied. In one of the scenarios he gave, a man can present a paper in Moscow and one hour later attend a seminar in Rio de Janeiro, all the while without leaving his home in Lagos, Nigeria. He mentioned some technological and cloud tools that can render these services, e.g., Skype, Zoom, Google Classroom, WhatsApp, and so on. In addition, he said, despite being in different locations, employees can easily use cloud-based collaboration tools and platforms to share, edit, and work together on a project, and such techniques enhance teamwork, collaboration, efficiency, a sense of importance, unity, and common purposes among employees. Examples of cloud collaboration tools he gave are Asana, Microsoft 365, Google Workplace, Microsoft Workplace, Dropbox, and Google Drive, among others.

Dr. Ademiluyi concluded that by embracing and optimizing automation and artificial intelligence and equipping employees with the necessary facilities and skills, office administrators can continually enhance their productivity and effectiveness in the age of automation and artificial intelligence.



## Other Events

The first day of the conference witnessed over eighty (80) individuals who participated within and outside Nigeria. The plenary session was observed on the second day, with a chairman, moderator, and rapporteur assigned to monitor and assess the paper presentation in each of the four syndicate sessions (A, B, C, and D). All authors presented their papers successfully without any network hitches.

Prior to the declaration of the conference opening on the first day, Associate Professor Omoseni O. Adepoju had successfully facilitated a professional development workshop titled ***“Navigating the Complex Work Environment with Your Intelligence”*** which aimed at assisting secretaries, office managers, administrators, information managers, health information personnel, and other professionals to develop strategies and skills that would enable them to thrive in diverse professional settings, adapt to new changes and trends, enhance effective communication and collaboration, solve problems creatively, and promote a positive working environment for personal and organisational growth. Associate Professor Adepoju also threw more light on the importance of applying inclusiveness at the workplace, such as the optimization of employees’ skills and talents, creativity and innovation enhancement, improvement of employee morale and retention, and fostering of diversity, equity, and belonging.

The conference's highlight was the induction of new members and honourary awardees for the Fellowship of the Institute. We had the honour of welcoming 31 new members who have shown exceptional contributions and commitment to the field. We took pride to welcome The Honourary Fellowship Awardees, Prof. Dahiru Mohammed Tounos - Rector, Adamawa State Polytechnic, Adamawa, Prof. Bunmi Gabriel Alegbeleye, from the Department of Information Resources Management, Babcock University, Dr Abiodun Oluseye, Rector, Ogun State Institute of Technology, Igbesa, Ogun State, Chief James Bamisaiye Ajayi, Rector, Ekiti City Polytechnic, Omuooke Ekiti, Ekiti State, Dr. Oyebola O. Ayeni, Registrar, Lead City University, Ibadan, Dr. James Ige Orija, Dean, School of Communication and Information Technology, The Federal Polytechnic, Ilaro, Ogun State, and Dr. Oriyomi Hamzat, the renown Broadcast Journalist, Human Rights Activist, and founder Agidigbo FM, Ibadan, who were recognized for their outstanding achievements and contributions to the advancement of office administration and information management.

In closing, it was agreed that there is a need for office and information management to undergo a profound digital transformation as digital and collaboration tools are consistently boosting employees' effectiveness and efficiency, improving information security, and fostering greater agility in today's rapidly evolving business world. To complete this, the Institute will continue to offer relevant training programs for her teeming members on digital transformation and to keep them abreast of the digital skills and competencies needed to thrive in the digital era, thereby contributing towards national development.

## **Resolutions**

At the end of the 2-day conference, it was resolved that:

1. Office administrators should continually keep abreast of developments in the area of the application of artificial intelligence for automating office functions.
2. Organisations should provide modern facilities, resources, and software for their offices.
3. Organisations should examine their office and information management procedures regularly and adapt to new trends, technology, and best practices.
4. Organisations should promote diversity, equity, and inclusion within their organisations and recognize them as essential drivers of innovation and success in the digital era.
5. Organisations should allow employees to optimize their remote work practices to adapt to the changing dynamics of the modern workplace.
6. Organisations should prioritize information security as a fundamental aspect of their digital strategy.
7. Offices should adhere to contemporary ergonomic and ecological requirements.
8. To optimize the development and deployment of artificial intelligence in Nigeria, the government should provide appropriate structures, facilities, and policies.
9. The National Universities Commission (NUC) and the National Board of Technical Education (NBTE) must ensure periodic reviews of office administration and information management curricula that meet global standards.
10. For undergraduates to remain employable, relevant, and competitive in the global digital landscape in the upcoming years, tertiary institutions must be adaptive in their training (theory and practice) of Office Administration and Information Management students.
11. There should be massive investment in artificial intelligence (the application of software programs that have the ability to collect, integrate, and process information to solve the

problems of workplace activities, which otherwise would require human resources and efforts to achieve).

12. Governments, industries, and educational institutions, including business schools, should support AI training and learning.
13. Government and organisations should embrace the anticipated 6G networks that would increase virtual and digital corporate workspaces.
14. The government should consistently improve national electricity generation and distribution.

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## **Papers Presented at the 2nd NIOAIM Biennial Conference 2024**

## **Assessing the Impact of 21<sup>st</sup> Century Skills on the Administrative Performance of Non-Teaching Staff in Federal Polytechnic Ilaro, Ogun State**

**ADEOYE, Adedoyin Comfort & AKINTOLA, Esther Modupe**

Department of Office Technology and Management

The Federal Polytechnic Ilaro, Ogun State, Nigeria

tayoadedoyincomfort@gmail.com & akintolaesthermodupe@gmail.com

08066612616 & 08101612622

### **Abstract**

*This study examined the relationship between of 21<sup>st</sup> century skills on the Administrative Performance of Non- teaching staff in the Federal Polytechnic Ilaro. The research's participant demographic included of all non- teaching staff members within the institution. A questionnaire survey was employed as the primary method of data collection. The objective of the study was to investigate whether there is a significant relationship exists between 21<sup>st</sup> century skills on the Administrative Performance of non-teaching staff. The study focused on assessing the impact of factors such as communication, collaboration, critical thinking, creativity, and problem-solving skills which contribute to the administrative performance. The total population is 420 and the sample size was 221 with the use of Taro Yamane formula. A four Point-Likert scale was used for the questionnaire. The study's findings revealed that the 21<sup>st</sup> century skills have a substantial impact on Administrative performance. Employee Administrative performance was positively influenced when there was a constructive and collaborative 21<sup>st</sup> century skills which was defined by open communication, involvement in decision-making, regular feedback, and appreciation of employee contributions. These findings emphasise the importance of establishing and important of 21<sup>st</sup> century skills on the administrative performance of non-teaching staff within the Federal Polytechnic Ilaro. It proposes that management development programs should provide non-teaching employees with essential abilities. Emphasizing humility, honesty, and integrity can result in a more positive work environment and higher productivity, assuming all other aspects remain constant.*

**Keywords:** Administrative, Non-Teaching Staff, Performance, Digital Skills, 21<sup>st</sup> Century Skills

### **Introduction**

The 21st century is undeniably a period of invention, development, and ideation. Automation is an increasing trend in technology, education, and the economy. This global transition, most visible in the workplace, would not have been possible without the preparation of a new generation who would one day be the flowering instruments of a thriving modern world. Employees are valuable assets to any company, thus each one contributes to the group's success by staying where they are. In an increasingly dynamic world, it is vital to investigate how an employee's competencies and performance will affect their chances of innovation, and hence their career success (Wardhani et

al., 2018). Furthermore, to perform their roles and obligations successfully, personnel must have the essential abilities and competences.

Employees are valuable assets to any firm. Each worker contributes to the group's success by remaining in their assigned position. In an increasingly dynamic world, it is critical to explore how an employee's competencies and performance influence their possibilities of innovation, and hence their career success (Wardhani et al., 2018). Furthermore, in order to successfully complete their jobs and responsibilities, employees must have the appropriate skills and competencies, make an extra effort to perform well, and support the organisation's mission. The awareness, life skills, professional abilities, habits, and qualities that are critical to non-academic success in the modern world, particularly as they change, are known as 21st-century skills.

Given the critical role of non-teaching personnel in accomplishing organisational goals and objectives, they must possess the necessary skills to contribute positively to the organisation's success. Technological advancements and the changing nature of work in the 21st century have altered the talents needed for professional success. Every employee should understand the talents required in the workplace, sometimes known as 21st-century skills. The Cooperation on 21st Century Skills (2007) grouped these abilities as learning, literacy, and life skills. Non-teaching workers are recognized to focus on everyday task performance in polytechnic. They carry out daily duties that involve great physical effort. Their responsibilities include developing work schedules, time cards, audits, attending to student compliant and other staffing tasks (Kotter, 2008; Parsons, 2015).

According to Vracar (2020), non-teaching employees should be equipped with 21st-century skills that allow them to be influential in complex work environments while performing daily chores. It combines technology, problem solving, information, communication, cooperation, critical thinking, and creativity. Work is getting more knowledge intensive, interdisciplinary, and specialized. Employee collaboration is essential because tasks are complicated; individuals cannot have all knowledge and abilities. As a result, groups of people with complementary talents and functions are increasingly doing work together (Dede, 2010; Fraser & Hvolby, 2010). Employees typically rely on others to do their tasks (Bronstein 2003). In order for them to work together, they must be clarity about their own and collaborators' roles. The digital world is one that exists solely via the flow of work.

To remain effective, organisations require critical thinkers who can connect knowledge with business strategy. Thinking is a complex process that impacts both our lives and our thoughts.

Individuals engage in critical thinking by utilizing logic when determining what to do or believe in a given situation. Employees that are capable of critical thinking are introspective, independent, and competent. Critical thinking involves objectively connecting concepts, scrutinizing and evaluating arguments, seeing inconsistencies and faults in your own and others' work, solving complex issues, and reflecting. Wade (1993)

A critical thinker will not only gather knowledge well but also understands how to apply it to derive facts and predict events. Critical thinkers are better at problem solving because they conceptualize consequences rather than merely memorizing information. As a result, employers value critical thinking, particularly in professions where strategic planning is an integral component of the job. Critical thinking is classified as a soft talent, which implies it is inherent in a person's mentality. Nonetheless, it is feasible to improve this skill. Critical thinking involves adhering to logic and scientific principles, as well as general guidelines. This will be most noticeable in an individual's decision-making ability. Critical thinkers can identify and challenge assumptions, imagine and explore alternatives, and use deliberate reasoning to interpret and evaluate information with reflective attitudes.

One of the most important 21<sup>st</sup> century skills is problem-solving skills. Problem-solving is a process that requires methodical observation and critical thought in order to identify an adequate solution or path to achieve the desired outcome. Problem-solving is an issue occurs when a living entity has a goal but is unsure how to achieve it. Thinking and looking for solution is necessary when action alone is insufficient to achieve a desired outcome. Problem-solving is the brain's process of analyzing a problem or discovering a solution to achieve a goal. Problem-solving skills include efficient reasoning, asking explicit questions, analyzing various perspectives, and reflecting critically on decisions and methods. According to Trilling and Fadel (2009), critical thinking involves analyzing, understanding, evaluating, summarizing, and producing new information.

ICT has enabled us to obtain a big listeners and converse via remote means in a speedier and more widespread manner. Individuals can communicate, develop relationships, and interact with others across time and space (Yu et al., 2010). ICT-based communication is seen as a technique to promote social interactions and strengthen social bonds (Hwang, 2011). Staff must understand how to communicate effectively and efficiently using email, social networking sites, and instant messaging services (Lewin & McNicol, 2015; Wang et al., 2012). People are encouraged to share



their ideas and opinions through organisations and online forums (Lu & Lee, 2012). Workers must be able to get in touch with other participants, build up such connections, and distribute matter digitally and media with one another for the seamless operation of services.

### **Statement of the problem**

Organisations increasingly operate in a global economy, with heightened rivalry from domestic and international firms. Administrators must traverse complex cultural, economic, and regulatory situations while keeping their firms competitive. Fast innovations in 21<sup>st</sup> century skills continue to disrupt areas and transform business structures. Administrators must adapt to evolving technologies, such as artificial intelligence, automation, and data analytics, and exploit them effectively to generate innovation, improve operational efficiency, and remain ahead of competitors and also the ability to cope with 21<sup>st</sup> century skills.

### **Objectives of the Study**

The main objective of this study was to determine the impact of 21<sup>st</sup> century skills on the Administrative Performance of Non- Teaching staff in The Federal Polytechnic, Ilaro Ogun State. The specific objectives are to:

1. Identity the 21<sup>st</sup> century skills on the administrative performance of non- teaching staff in The Federal Polytechnic, Ilaro. Ogun State.
2. examine the impact of critical thinking skills on the administrative performance of non-teaching staff in The Federal Polytechnic, Ilaro, Ogun State.
3. determine the effect of problem solving skills on the administrative performance of non-teaching staff in The Federal Polytechnic, Ilaro, Ogun State.
4. examine the influence of communication skills on the administrative performance of non-teaching staff in The Federal Polytechnic, Ilaro, Ogun State.

### **Methodology**

The study's Techniques for research was a survey to evaluate the association between factors. The audience was all non-teaching personnel at the Federal Polytechnic Ilaro in Ogun State, Nigeria, where there are four hundred and fifty (450) non-teaching workers at the time of this study. The respondents to the questionnaire were chosen using a convenience sampling method, which took taking into consideration their accessibility and desire to involve in the study. The Taro Yamane formula was used to establish the sample size of 212, taking into account the total number of the populace and desired level of assurance. A systematic questionnaire was created to assemble

information on sample size via a digital platform, and statistical inference were used to investigate the connection among the parameters.

### Test of Hypotheses

- H<sub>01</sub> Critical thinking skills has no significant impact on Administrative performance of non-academic staff in The Federal Polytechnic, Ilaro. Ogun State.
- H<sub>02</sub> Technical Skills has no significant influence on Administrative performance of non-academic staff in The Federal Polytechnic, Ilaro. Ogun State.
- H<sub>03</sub> Communication Skills has no significant influence on Administrative performance of non-academic staff in The Federal Polytechnic, Ilaro. Ogun State.

**Table 1: Model Summary**

Model	R	R Sq.	Adjusted R Square	Std. Error of the Estimate
1	.542 <sup>a</sup>	.292	.285	2.47213

The findings (table 1) show a minor positive relationship (correlation coefficient = 0.542) considering the total impact of the explanatory variables (critical thinking skills, problem solving skills and communication digital skills) and administrative performance of non-teaching staff. According to the data, the aforementioned independent factors account for approximately 19.5% of the variance in administrative performance.

**Table 2: ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Sq.	F	Sign.
1	Regression	4.283	3	1.427	.185	.008 <sup>b</sup>
	Residual	2347.369	304	7.722		
	Total	2381.324	304			

Table 2's acquired outcome, which displays a p-value of 0.008, offers additional proof of the test's statistical significance. This shows that the relationship amongst the dependent and independent variables is established by the model enough and sufficiently.

**Table 3: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients Beta's	T	Sig.
	B	Std. Error's			
(Constant)	32.254	1.6523		14.643	.001
Critical thinking skills	.062	.056	.065	.625	.008
Problem solving skills	.034	.092	.046	.456	.039
Communication skills	.007	.078	.009	.224	.008

In accordance to the coefficient table (table 3), the administrative performance of academic staff is within 46% when the independent factors are excluded. Nonetheless, it's been demonstrated that a one-unit improvement in communication digital abilities resulted in a 6% increase in administrative performance, with a standardized error of 0.056. Similarly, every progressively increase in problem solving skills results in a 3.4% improvement in job performance, with a standard error of 0.092. Finally, an enhancement of one unit in critical thinking skills has been demonstrated to raise administrative performance by around 0.7%. The analysis yielded p-values that were less than the preset significance level of 5%. As a result, alternative theories are considered to be.

## **Conclusion**

This study looked at the impact of 21st century skills on administrative performance among non-teaching staff at the Federal Polytechnic Ilaro. The results of the research show that 21st century skills have a considerable impact on non-teaching staff members' work performance. In today's complex and dynamic workplace, non-academic employees must be both effective leaders and innovators. An effective employee must be able to persuade and motivate people to go above and beyond their expectations in order to achieve a shared goal. Non-teaching workers should develop their creativity and generate original ideas to address social, political, and economic issues in their company or country.

## **Recommendations**

Considering the results of this investigation, the suggestions listed below were put forth:

1. Employees should also attend seminars and training to strengthen and develop their abilities, particularly on skills, which they can use to carry out their roles and responsibilities.
2. Non-teaching staff development programs should focus on mental, social, and behavioral training, as well as mindset adjustment.
3. Integrating mindfulness into leadership and personal development training can increase employee productivity and well-being.
4. Management development programs should provide non-teaching employees with essential abilities. Emphasizing humility, honesty, and integrity can result in a more positive work environment and higher productivity, assuming all other aspects remain constant.

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## Organisational Training and Responsiveness of Administrative Staff of State-Owned Polytechnics, Oyo State, Nigeria

<sup>1</sup>ADEYEMI, Abdulrahmon Adesoji; <sup>2</sup>AHAMZE, Victoria Olanike; <sup>3</sup>ADEGBITE-AKINPELU, Rukayat Oyeyemi

Department of Information Management, Lead City University, Ibadan

<sup>1</sup>adeyemi.abdulrahmon@lcu.edu.ng; +234-8137181095

<sup>2</sup>ahamze.victoria@lcu.edu.ng; +234-8034784646

<sup>3</sup>rukayat.adegbite@lcu.edu.ng; +234-8064870453

### Abstract

*Organisational Training (OT) is a critical process that enhances the responsiveness of administrative staff (AS) of higher institutions globally. However, studies have shown that the response of the AS in Oyo State-owned polytechnics is perceived to be slow. With this weakening, their performances have aggravated into poor service delivery and delays in attending to students' requests. Hence, this study investigated the influence of OT on the responsiveness of AS in state-owned polytechnics in Oyo State. Cross-sectional survey research design was adopted. The population consists of 1,509 AS from the three polytechnics in Oyo State with a sample size of 307 staff determined through Raosoft (2004). Simple random sampling technique was adopted for the purpose of the study. A validated questionnaire was used to collect the data. The reliability coefficient for the constructs ranged from 0.74 to 0.81. The data collected was analysed using descriptive and inferential statistics. Findings revealed that OT had a significant influence on responsiveness (Adj.  $R^2 = 0.099$ ,  $F(3,257) = 10.518$ ,  $p = 0.000$ ). This study concluded that OT significantly influences the responsiveness of AS in state-owned polytechnics in Oyo State, Nigeria. It was recommended that management of Oyo State polytechnics should ensure there is adequate OT for AS performance while they continue to implement more strategies such as attending educational seminars, local summits as well as international summits in order to acquire new knowledge which will impact the responsiveness of AS in Oyo State-owned polytechnics.*

**Keywords:** Job Performance, Office Administration, Office Management, Organisational Training

### Introduction

Responsiveness is one out of the most important factors affecting the organisation sustainability, growth and expansion. Responsiveness (timeliness): in this context will refer to how timely (i.e. response time) and accurately do administrative staff respond to their work (Paul & Audu, 2019). Creating a favorable atmosphere for students, faculty, and other stakeholders is largely dependent on the timely response of the administrative staff. Administrative staff are involved in day-to-day activities such as filing of documents, keeping of records, attending to students and other people when needed. It has been perceived that administrative staff in state-owned polytechnic do their work with hand levity, of their response to work is not timely; are administrative staff performing to the extent they are expected to perform. When administrative staff are attending to their work

immediately, responses are improved in State-owned polytechnic, Oyo State. Most times, it is up to the employee on how well he decides to perform irrespective of other external factors that may directly or indirectly affect his decision.

For employee to perform effectively and efficiently they must have relevant organisational training and skills. One major area of the Human Resource Management function of particular relevance to the effective use of human resources is training and development. Few people these days would argue against the importance of training as a major influence on the success of an organisation (Laing, 2021). Thus, Influence of organisation training is positively and significantly associated with job performance. Training is an activity to improve the ability and improve employee performance in carrying out their duties by improving specific skills, knowledge, skills, attitudes and behaviors related to work (Ozkeser, 2019). Training is always done for a particular/specific purpose, among the various reason why training is done are: to orientate and provide job related knowledge to new employees, to impact skills among the workers systematically so that they may learn quickly, to make workers handle materials, machines and equipment efficiently, to prepare workers that are promoted to higher offices for their jobs and to consistently update the skills of the employees with the changing trends in their working pattern. Good job training and supporting the skills and abilities of employees in carrying out work activities will improve the quality of employees' work (McCrie & Lee, 2022).

Organisational Training includes training to support the organisation's strategic business objectives and to meet the tactical training needs that are common across projects and support groups. The purpose of Organisational Training (OT) is to develop skills and knowledge of people so they can perform their roles effectively and efficiently. An organisational training program involves identifying the training needed by the organisation; obtaining and providing training to address those needs; establishing and maintaining a training capability; establishing and maintaining training records; assessing training effectiveness (CMMI, 2021). It is in view of this discussion that this study intends to investigate the influence of organisational training and responsiveness of administrative staff of State-owned polytechnics in Oyo State, Nigeria.

### **Statement of the Problem**

Organisational training has been identified as one of the factors that influence responsiveness positively. Administrative staff are involved in day-to-day activities such as filing of documents, keeping of records, attending to students and other people when needed. When administrative staff are performing optimally, response time is faster and work quality are improved in State-owned



polytechnic, Oyo State. However preliminary investigation revealed that responsiveness in State-owned polytechnic in Oyo State is on the declined. As a result, it may lead to more issues such as poor quality of work such as students not receiving documents needed as when due, which also affect the service quality rendered to students. Hence, this study seeks to examine the influence of organisational training and responsiveness of administrative staff of State-owned polytechnics in Oyo State, Nigeria.

### **Objectives of the Study**

The objective of the study is to investigate influence of organisational training responsiveness of the administrative in State-owned Polytechnics in Oyo State, Nigeria. The specific objectives are to:

- i. identify the level of responsiveness in State-owned polytechnics, Oyo State, Nigeria
- ii. ascertain the level of organisational training available to administrative staff of State-owned polytechnics in Oyo State, Nigeria
- iii. examine the level of organisational training on responsiveness of administrative staff in State-owned polytechnics, Oyo State, Nigeria

### **Hypothesis**

The result of the hypothesis was tested at a probability value of 0.05+ significance, the following hypothesis was formulated to guide the study:

**H<sub>01</sub>:** There will be no significant influence of organisational training on responsiveness of administrative staff in State-owned polytechnics in Oyo State, Nigeria.

### **Literature Review**

#### **Responsiveness (Timeliness)**

Responsiveness reflects the extent to which a service provider is able to respond quickly and effectively to customer expectations, desires, aspirations and demands. Responsiveness emphasises the importance of effective interaction between service providers and the public, creating an environment where services are adapted to the dynamics and development of customer needs. Therefore, increasing responsiveness is considered a key step in increasing customer satisfaction and strengthening the relationship between service providers and society (Djou et al.,2023). Responsiveness, as explained by Ratminto and Winarsih in (Hassan et al. 2023), refers to a service provider's ability to effectively identify community needs. This includes the ability to set service agendas and priorities, as well as designing service programs that suit community needs and aspirations. According to Sugiandi, as quoted by Herdini &Widiyarta (2020), responsiveness

includes the concept of the ability of state officials to face and predict new aspirations, developments, demands and knowledge. In this context, the administrative staff is expected to be able to respond quickly in order to carry out their duties and functions as service providers. Responsiveness is not only concerned with responding to current needs, but also involves the ability to anticipate change and understand societal dynamics (Hassan et al. 2023).

### **Organisational Training**

One major area of the Human Resource Management function of particular relevance to the effective use of human resources is training and development. Few people these days would argue against the importance of training as a major influence on the success of an organisation (Laing, 2021). According (Cole, 2002), organisational training is a learning activity that aims to acquire specialized knowledge and abilities for an occupation or task. Training focuses on job-related tasks, such as ensuring efficiency and safety when operating machinery or equipment or developing a successful sales force, to name a few. Training is a learning activity that aims to acquire specialized knowledge and abilities for an occupation or task. Training focuses on job-related tasks, such as ensuring efficiency and safety when operating machinery or equipment or developing a successful sales force, to name a few.

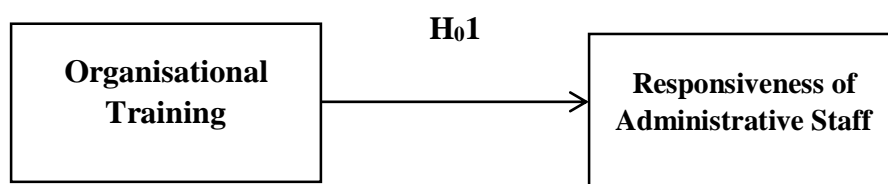
Organisational training can be considered from a number of different perspectives. It can focus on different types of content, primarily categorized as managerial, technical, and awareness, among other types. It can be delivered using an array of training approaches, methods, and media, depending on the situation (Dias, 2021). It is stated that training is organized and used by an organisation as a business strategy to help employees develop and acquire competence, which includes knowledge, skills, behaviors, and attitudes that are critical for successful job performance (Hajjar & Alkhanaizi, 2018). For effective employee training, there are four steps that generally occur. First, the new employee goes through an orientation, and then he or she will receive in-house training on job-specific areas. Next, the employee should be assigned a mentor, and then, as comfort with the job duties grows, he or she may engage in external training. (Laing, 2021) stated that most organisations have long acknowledged the value of training in their development. As technology replaces certain professions and talents, a competent workforce becomes increasingly important. Machines have displaced many unskilled and semi-skilled occupations, highlighting the importance of higher education and skills for future career opportunities.

Different techniques are usually used in a training program. The identification of a need for training is the first thing to be established (Noe, 2010). The level of identifying the need is very



important for the two parties involved i.e. the employer and the employee so as to gather up the important areas to be covered and to be able to measure at the end of the day if training or improvement in skills and abilities had taken place (Orser et al., 2019). There are seven steps in this approach (Alexandria, 2019). Step 1 is to carry out a need test which is vital to identify whether and when training is needed. Step 2 is to be sure that the employees have the motivation and required mindset necessary to master the training content. Step 3 is to ensure or import a learning environment that has the conducive atmosphere for learning to take place. Step 4 is to ensure that the training is applicable to the job specified and see to it that the trainee apply the training content to their jobs, that is, knowing what to do and when to do it. Step 5 is to develop an evaluation plan i.e. ascertaining the types of result expected after the training (changes in behaviour and skill), adopt a measuring means that will help to clearly determine how Training affect the "bottom line" that is looking at it from the cost benefit analysis to decide the financial gains resulting from training. Step 6 is to choose the training method considering the learning goals and the available learning environment which can be traditional method of face-to-face interaction with a trainer, e- learning using CD-ROM or web-based training. Step 7 is to revisit the program and make necessary changes to improve the program so that all learning objective are achieved (Worlu et al., 2017).

### Conceptual Framework



**Fig 1: Researcher Conceptual Model, 2022**

According to the conceptual model of the study above, the dependent variable which is responsiveness of administrative staff in the context of this study will be measured using independent variable which is organisational training with the measures (ICT Skills, Administrative Skills and Automated Office Equipment Handling Skills).

### Methodology

The study adopted descriptive design but used the survey approach with the use of questionnaire as instrument of data collection. Oyo State has three (3) State Polytechnics that were used for this study. The Polytechnic, Ibadan in Ibadan North, The Oke-Ogun Polytechnic, Saki in Saki West and The Ibarapa Polytechnic, Eruwa in Ibarapa. The sample size of this study was (307) made up

of administrative staff of the three state-owned polytechnics in Oyo State which represented the total population. This study employed simple random sampling technique (a probability sampling approach) because of the nature of the study's population (executive officers, secretaries etc), this offers all the study population equal chance of been selected in this study. Given that the respondents share same characteristics, anyone sampled will not lead to sampling error that will invalidate the outcome of this study.

## Results

### Research Question 1: The level of responsiveness of administrative staff in State-owned polytechnics, Oyo State.

**Table 1: Descriptive Analysis of Responses on the Level of Responsiveness of Administrative Staff in State-Owned Polytechnics, Oyo State.**

Responsiveness	VH	H	L	VL	Mean
Timely delivery of task assigned to me weekly.	94 (36.0%)	153 (58.6%)	10 (3.8%)	4 (1.5%)	3.29
Students needs are promptly responded to without delay.	105 (40.2%)	126 (48.3%)	26 (10.0%)	4 (1.5%)	3.27
Effective completion of task	94 (36.0%)	146 (55.9%)	20 (7.7%)	1 (0.4%)	3.28
Ability to perform swiftly in all roles assigned to me	96 (36.8%)	143 (54.8%)	20 (7.7%)	2 (0.8%)	3.28
Quick response to students' complaint	80 (30.7%)	103 (39.5%)	68 (26.1%)	10 (3.8%)	2.97
Giving explanation to reasons task cannot be achieved at a specific time.	65 (24.9%)	100 (38.3%)	80 (30.7%)	16 (6.1%)	2.82

Decision Rule: 1.00 – 1.49 (Very Low), 1.50 – 2.49 (Low), 2.50 – 3.49 (High), 3.50 – 4.00 (Very High).

According to results in Table 1 36.0% of respondents rated very high that there is timely delivery of tasks assigned to them, 58.6% high, 3.8% low, and 1.5% very low. On average, the respondents indicated that there is timely delivery of tasks assigned to them has a mean of 3.29. Results also indicated that 40.2% of respondents rated very high that students' needs are promptly responded to without delay, 48.3% high, 10.0% low, and 1.5% very low. On average, the respondents indicated that student's needs are promptly responded to without delay has a mean of 3.27. Results also indicated that 36.0% of the respondents rated very high that there is effective completion of tasks, 55.9% high, 7.7% low, and 0.4% very low. On average, the respondents indicated that there is effective completion of tasks has mean of 3.28. Results also indicated that 36.8% of the respondents rated very high that the ability to perform in all role is assigned to them, 54.8% high, 7.7% low, and 0.8% very low. On average, the respondents indicated the ability to perform in all role is assigned to them has a mean of 3.28. Results also indicated that 30.7% of the respondents rated very high that they respond quickly to student's complaints, 39.5% high, 26.1% low, and

3.8% very low. On average, the respondents indicated that they respond quickly to students' complaints has a mean of 2.97. Results also indicated that 24.9% of respondents rated very high that they give explanation to reasons tasks cannot be achieved at a specific time, 38.3% high, 30.7% low, and 6.1% very low. On average, the respondents indicated that they give explanation to reasons tasks cannot be achieved at a specific time has a mean of 2.82.

Overall, the weighted mean for responsiveness is 3.15 and this suggest that the respondents fairly agree with many of the statement representing responsiveness of administrative staff of State-owned polytechnics in Oyo State. Specifically, of the issues such as 'Quick response to students' complaint with a mean of 2.97, and 'Giving explanation to reasons task cannot be achieved at a specific time' with a mean of 2.82 shows that despite an overall mean of 3.15 which shows that level of responsiveness of administrative staff of State-owned polytechnics in Oyo State is moderately high, the underlining issues discovered as presented above suggest a lot of effort is needed to ensure that within State-owned polytechnics in Oyo State, they consistently acquire and train on facilities that would positively enhance their work, like present the workers with an enabling environment that allow for performing increased number of tasks and be responsive to the institutional need. This should improve the performance of administrative staff in State-owned polytechnics in Oyo State.

## Research Question 2: What is the level of organisational training available to administrative staff in State-owned polytechnics, Oyo State?

**Table 2: Descriptive Analysis of Responses on the Level of Organisational Training Available to Administrative Staff in State-Owned Polytechnics, Oyo State**

ICT Skills	VH	H	L	VL	Mean
Conducting periodic assessment of ICT skill needs to achieve better performance	88 (33.7%)	148 (56.7%)	22 (8.4%)	3 (1.1%)	2.23
Providing a schedule of ICT skill training to be conducted at regular interval	118 (45.2%)	115 (44.1%)	25 (9.6%)	3 (1.1%)	3.33
Providing adequate ICT facilities which enhance training	130 (49.8%)	103 (39.5%)	26 (10.0%)	2 (0.8%)	2.38
Ensuring that members of staff are all present to participate in the ICT skill training session	138 (52.9%)	92 (35.2%)	31 (11.9%)	-	3.41
Ensuring training covers the running of relevant software that aid work effectiveness	125 (47.9%)	102 (39.1%)	34 (13.0%)	-	3.35
Providing in-house support team to resolve challenges that comes up after the ICT skill training session	117 (44.8%)	117 (44.8%)	23 (8.8%)	4 (1.5%)	2.33
Ensuring ICT training is a continuous exercise	129 (49.4%)	108 (41.4%)	20 (7.7%)	4 (1.5%)	3.39

Decision Rule: 1.00 – 1.49 (Very Low), 1.50 – 2.49 (Low), 2.50 – 3.49 (High), 3.50 – 4.00 (Very High).

<b>Administrative Skills Training</b>	<b>VH</b>	<b>H</b>	<b>L</b>	<b>VL</b>	<b>Mean</b>
I am able to organize weekly task to achieve maximum productivity	75 (28.7%)	165 (63.2%)	20 (7.7%)	1 (0.4%)	3.20
I am able to follow due process in discharge of task assigned	116 (44.4%)	116 (44.4%)	26 (10.0%)	3 (1.1%)	3.32
I attend to duties effectively without undue delay	109 (41.8%)	137 (52.5%)	13 (5.0%)	2 (0.8%)	3.35
I am able to achieve cooperation among staff to enhance overall school performance	138 (52.9%)	108 (41.4%)	11 (4.2%)	4 (1.5%)	3.46
I ensure staff follow up with commitment to ensure efficient work done	99 (37.9%)	141 (54.0%)	21 (8.0%)	-	3.30
Managerial skills needed to handle unexpected work-related challenges are addressed to enhance staff performance	114 (43.7%)	119 (45.6%)	27 (10.3%)	1 (0.4%)	3.33

Decision Rule: 1.00 – 1.49 (Very Low), 1.50 – 2.49 (Low), 2.50 – 3.49 (High), 3.50 – 4.00 (Very High).

<b>Automated Office Equipment Handling Skills</b>	<b>VH</b>	<b>H</b>	<b>L</b>	<b>VL</b>	<b>Mean</b>
There is proper documentation of all the office equipment in each office	137 (52.5%)	94 (36.0%)	24 (9.2%)	6 (2.3%)	3.39
There is prompt report of damages/fault identified with such equipment	109 (41.8%)	105 (40.2%)	39 (14.9%)	8 (3.1%)	3.21
I am able to operate the equipment that are automated in nature	83 (31.8%)	121 (46.4%)	49 (18.8%)	8 (3.1%)	3.07
I provide support staff to aid equipment handling before/after use	79 (30.3%)	150 (57.5%)	31 (11.9%)	1 (0.4%)	3.18
I provide up to date information required for the usage of an automated office equipment	75 (28.7%)	140 (53.6%)	37 (14.2%)	9 (3.4%)	3.08
I ensure that the automated equipment is not used for personal gains	119 (45.6%)	115 (44.1%)	20 (7.7%)	7 (2.7%)	3.33
<b>Overall Weighted Mean of Organisational Training</b>					<b>3.26</b>

Decision Rule: 1.00 – 1.49 (Very Low), 1.50 – 2.49 (Low), 2.50 – 3.49 (High), 3.50 – 4.00 (Very High).

According to results in Table 2, 33.7% of respondents rated very high that conducting periodic assessment of ICT skill needs to achieve better performance, 56.7% high, 8.4% low, and 1.1% very low. On average, the respondents indicated that conducting periodic assessment of ICT skill needs to achieve better performance has a mean of 3.23. Results also indicated that 45.2% of respondents rated very high that providing a schedule of ICT skill training should be conducted at regular interval, 44.1% high, 9.6% low, and 1.1% very low. On average, the respondents indicated providing a schedule of ICT skill training should be conducted at regular interval has a mean of 3.33. Results also indicated that 49.8% of the respondents rated very high that they provide adequate ICT facilities which enhances training, 39.5% high, 10.0% low, and 0.8% very low. On average, the respondents indicated that they provide an adequate ICT facility which enhances training has a mean of 3.38.

Results also indicated that 52.9% of the respondents rated very high that they ensure that members of staff are all present to participate in the ICT skill training, 35.2% high, and 11.9% low. On

average, the respondents indicated that they ensure that members of staff are all present to participate in the ICT skill training has a mean of 3.41. Results also indicated that 47.9% of respondents rated very high that they ensure training covers the running of relevant software that aid work effectiveness, 39.1% high and 13.0% low. On average, the respondents indicated that they ensure training covers the running of relevant software that aid work effectiveness has a mean of 3.35. Results also indicated that 44.8% of respondents rated very high that they should provide in-house support team to resolve challenges that come up after the ICT skill training session, 44.8% high, 8.8% low, and 1.5% very low. On average, the respondents indicated that they provide in-house support team to resolve challenges that come up after the ICT skill training session has a mean of 3.33. Results also indicated that 49.4% of respondents rated very high that they ensure ICT training is a continuous exercise, 41.4% high, 7.7% low, and 1.5% very low. On average, the respondents indicated that providing in-house support team to resolve challenges that come up after the ICT skill training session has a mean of 3.39.

According to results in Table 5.2, 28.7% of the respondents rated very high that they are able to organize weekly task to achieve maximum productivity, 63.2% high, 7.7% low, and 0.4% very low. On average, the respondents indicated that they are able to organize weekly task to achieve maximum productivity has a mean of 3.20. Results also indicated that 44.4% of the respondents rated very high that they are able to follow due process in discharge of task assigned, 44.4% high, 10.0% low, and 1.1% very low. On average, the respondents indicated that they are able to follow due process in discharge of task assigned has a mean of 3.32. Results also indicated that 41.8% of the respondents rated very high that they attend to duties effectively without undue delay, 52.5% high, 5.0% low, and 0.8% very low. On average, the respondents indicated that they attend to duties effectively without undue delay has a mean of 3.35. Results also indicated that 52.9% of the respondents rated very high that they are able to achieve cooperation among staff to enhance overall school performance, 41.4% high, 4.2% low, and 1.5% very low. On average, the respondents indicated they are able to achieve cooperation among staff to enhance overall school performance has a mean of 3.46.

Results also indicated that 37.9% of respondents rated very high that they ensure staff follow-up with commitment to ensure efficient work done, 54.0% high, and 8.0% low. On average, the respondents indicated that they ensure staff follow-up with commitment to ensure efficient work done has a mean of 3.30. Results also indicated that 43.7% of respondents rated very high that managerial skills needed to handle unexpected work-related challenges are addressed to enhance staff performance, 45.6% high, 10.3% low and 0.4% very low. On average, the respondents

indicated that managerial skills needed to handle unexpected work-related challenges are addressed to enhance staff performance has mean of 3.33.

According to results in Table 2, 52.5% of the respondents rated very high that there is proper documentation of all the office equipment in each office, 36.0% high, 9.2% low and 2.3% very low. On average, the respondents indicated that there is proper documentation of all the office equipment in each office has a mean of 3.39. Results also indicated that 41.8% of the respondents rated very high that there is prompt report of damages/fault identified with such equipment, 40.2% high, 14.9% low, and 3.1% very low. On average, the respondents indicated that there is prompt report of damages/fault identified with such equipment has a mean of 3.21. Results also indicated that 31.8% of respondents rated very high that they are able to operate the equipment that are automated in nature, 46.4% high, 18.8% low and 3.1% very low. On average, the respondents indicated that they are able to operate the equipment that are automated in nature has a mean of 3.07. Results also indicated that 30.3% of respondents rated very high that they provide support to staff to aid equipment handling before/after use, 57.5% high, 11.9% low, and 0.4% very low. On average, the respondents indicated that they provide support to staff to aid equipment handling before/after use has a mean of 3.18.

Results also indicated that 28.7% of respondents rated very high that they provide up to date information required for the usage of automated office equipment, 53.6% high, 14.2% low, and 3.4% very low. On average, the respondents indicated that they provide up to date information required for the usage of automated office equipment has a mean of 3.08. Results also indicated that 45.6% of respondents rated very high that they ensure that automated equipment is not used for personal gains, 44.1% high, 7.7% low, and 2.7% very low. On average, the respondents indicated they automated equipment is not used for personal gains has a mean of 3.33.

Overall, the weighted mean for organisational training is 3.26 and this suggest that the respondents fairly agree with many of the statement representing training of administrative staff in State-owned polytechnics in Oyo State. Specifically, of the issues such as ‘Conducting periodic assessment of ICT skill gap needs to achieve better performance’ with a mean of 2.23, ‘Providing adequate ICT facilities which enhance training’ with a mean of 2.38, and Providing in-house support team to resolve challenges that comes up after the ICT skill training session with a mean of 2.33 shows that despite an overall mean of 3.13 which shows that level of organisational training in State-owned polytechnics in Oyo State is moderately high, the underlining issues discovered as presented above suggest a lot of effort is needed to ensure that within State-owned polytechnics



in Oyo State, they consistently provide facilities that guarantee ICT training. Specifically, management of State-owned polytechnics in Oyo State need to acquire and train administrative staff on ICT facilities that would positively enhance their work, like Conducting periodic assessment of ICT skill gap needs, providing adequate ICT facilities which enhance training and providing in-house support team to assist administrative staff on ICT related challenges. This should improve the performance of administrative staff in State-owned polytechnics in Oyo State.

The null hypothesis one which states that organisational training measures has no significant influence on responsiveness of job performance of administrative staff in State-owned polytechnics in Oyo State, Nigeria was tested using multiple linear regression analysis. In the analysis, the values of responsiveness were regressed on the values of organisational training sub-measure. The data for organisational training (independent variable) was generated by summing responses of all variable items respectively while that of responsiveness of administrative staff (dependent) was generated by adding responses of all items used to measure the variable. The regression test results are presented in Tables 5.1a-c.

**Hypothesis One:** Organisational training measures has no significant influence on responsiveness of job performance of administrative staff in State-owned polytechnics in Oyo State, Nigeria.

**Table 3a-c: Summary of Regression Analysis for the Influence of Organisational Training on Responsiveness of Administrative Staff in State-Owned Polytechnics in Oyo State**

**a. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.331 <sup>a</sup>	.109	.099	.45627

a. Predictors: (Constant), Ehtrain, Ictrain, Astrain

**b. ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.569	3	2.190	10.518	.000 <sup>b</sup>
	Residual	53.504	257	.208		
	Total	60.073	260			

a. Dependent Variable: Responsiveness

b. Predictors: (Constant), ICT skill, Administrative skill, Automated office equipment handling skill

**c. Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.937	.243		7.958	.000
	ICT Skills	-.016	.075	-.016	-.211	.833
	Administrative skills	.176	.099	.151	1.785	.075
	Equipment handling skills	.212	.076	.222	2.794	.006

a. Dependent Variable: Responsiveness

b. Predictors: (Constant), ICT skill, Administrative skill, Automated office equipment handling skill

Source: Researcher's Field Survey Data (2022)

From the results in Table 3a, organisational training has weak positive relationship with the responsiveness of administrative staff of State-owned polytechnics in Oyo State ( $R = 0.331$ ). The coefficient of determination (Adj.  $R^2$ ) of 0.099 shows that organisational training explains 9.9% of the variation in responsiveness of administrative staff of State-owned polytechnics in Oyo State, while the remaining 99.1% variation in responsiveness of administrative staff is explained by other extraneous factors other than those examined in this study. Table 3b presents the results of ANOVA (overall model significance) of regression test which revealed that organisational training has a significant influence on responsiveness of administrative staff of State-owned polytechnics in Oyo State. This can be explained by the F-value (10.518) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the result posited that organisational training taking place in State-owned polytechnics in Oyo State significantly influenced the responsiveness of administrative staff in the institution.

Furthermore, the results of regression coefficients in table 3c, revealed that at 95% confidence level, a unit change in Equipment handling skills training will lead to a 0.212 increase in the responsiveness of administrative staff of State-owned polytechnics in Oyo State, given that all other factors are held constant. Of all the organisational training sub-variables examined, ICT skill and administrative skill training have an insignificant relative influence while Equipment handling skills training has a significant relative. On the strength of this result (Adj.  $R^2 = 0.099$ ,  $F(3,257) = 10.518$ ,  $p = 0.000$ ), this study rejects the null hypothesis one ( $H_{01}$ ) which states that organisational training measures has no significant influence on responsiveness of job performance of administrative staff in State-owned polytechnics in Oyo State, Nigeria.



## **Discussion**

The findings of hypothesis one reveal that there is significant influence of organisational training on responsiveness of administrative staff of State-owned polytechnics in Oyo State, Nigeria. Hence, the findings of hypothesis one found support in prior empirical studies. For instance, quality of the workers' knowledge, skills, and competence are positively impacted by training and development programs, according to (Guest, 2017), who discussed this in his study. This leads to greater employee performance at work. In the end, this relationship supports exceptional organisational performance. The only approach to identify an employee's unmet needs and then develop their necessary competence level so they can work effectively to meet organisational objectives is through training. Additionally, the study by (Paul & Audu, 2019) that looked at effects of training of academic staff on employees' performance in federal polytechnics, Nigeria agreed that effective academic staff training in terms of employees' enhancement, job knowledge, skills, competence, and morale, improve employees' performance in terms of productivity, timeliness, and work quality. This is collaborated by the correlation coefficient ( $r$ ) of 0.801 that indicates a strong positive relationship. The coefficient of determination ( $r^2$ ) of 0.821 indicates that about 82.1% of variation on academic staffs' timeliness can be explained by training. In the absence of staffs' training, it is indicated that academic staffs' timeliness will reduce by 1.981.

Another study looked at the correlation between training and promotion opportunities and employee job performance and motivation to work (Siswoyo et al., 2020). Researchers surveyed 215 people at the National Education Office for the South Lampung Regency. The quantitative survey approach is used in this study's design, and the structural equation model (SEM) implemented in Amos 24 is the analytical backbone. Findings suggest (a) training and promotion positively impacted work motivation, (b) training, promotion, and work motivation positively impacted job performance, and (c) work motivation did not play a major role in moderating the effect of training and promotion on job performance. Based on the findings, organisations of all sizes may agree that doing a good job is crucial to their success. Given the importance of performance in determining an organisation's success, it is essential that the administrative staff at the polytechnics in the state of Oyo receive more training and learn more about their jobs. On the other hand, organisational training influence responsiveness by helping to enhance employee skills, knowledge and abilities in order to achieve the institutions set out objectives.

## Conclusion and Recommendations

In conclusion, organisational training plays a crucial role in enhancing the responsiveness of administrative staff within polytechnics. By improving communication skills, streamlining processes, fostering a customer-centric approach, and promoting continuous improvement, training programs empower staff to effectively meet the needs of students and other stakeholders. Investing in such training initiatives is essential for maintaining high standards of service and overall satisfaction within polytechnic institutions. Also, regular training, and exposure to proper training programmes like seminars, team training and staff mentoring will remind them on the appropriate knowledge to be acquired and will also create opportunity for the staff on how to make use of the method in executing their job to improve performance. It was recommended that management of Oyo State polytechnics should ensure there is adequate organisational training for administrative staff to improve their responsiveness while they continue to implement more strategies such as attending educational seminars, local summits as well as international summits in order to acquire new knowledge which will impact the responsiveness of administrative staff in Oyo State-owned polytechnics.

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## Opportunities and Challenges of Office Administration in a Digital Transformation Landscape

**AJAYI, Josephine Motunrayo**

National Orthopaedic Hospital, Igbobi, Lagos  
08035416615; motunrayoajayi1511@gmail.com

### Abstract

*The digital transformation landscape in office administration is reshaping the workflows and communication because data can easily be circulated and accessed, flexibility in structure due to the embrace of different technology is making decision-making easier for business executives. Nonetheless, digital transformation has its attendant challenges ranging from technological disruption which leads to job loss, cost of reskilling and upskilling, standard management of data which keeps growing exponentially, cyber security, cyberbullying, etc. The primary purpose of this research is to expose the many opportunities office administration can use in digital landscape to improve service delivery and how to avoid the challenges on the landscape. The paper used a quantitative research design making it an empirical study. The total population consisted of 74 Administrative Staff of National Orthopaedic Hospital, Lagos, and sample size was determined using Taro Yamane's formula, therefore, sample size was 62 Administrative Staff of National Orthopaedic Hospital, Lagos. Simple Random sampling technique was used to administer questionnaire to the participants. The statistical analysis carried out included inferential statistics, ANOVA and Pearson correlation which measured the strength and direction of association between the two ranked variables which are digital landscape and opportunities and challenges in a digital transformation landscape. Findings revealed that there was a correlation between the two variables, the p-value was 0.030 with the level of significant value as 0.05, the correlation was considered statistically significant at 0.05 level. The significant positive correlation ( $r$ ) which was 0.275, when p-value was 0.030 suggested that there was a positive relationship between digital landscape and opportunities and challenges in a digital transformation landscape. This fully supported the rejection of the null hypothesis which implies that there are opportunities and challenges in digital transformation landscape. In conclusion, the Office Administration role has been redefined, and for organisations to stay afloat and remain relevant in this rapidly changing digital landscape. It is therefore recommended that consistent learning, relearning, and unlearning should be positively embraced and organisations should fully give their support by providing the necessary digital tools.*

**Keywords:** Digital, Digitization, Transformation, Landscape, Relearning, Unlearning

### Introduction

In today's contemporary business world, digital transformation is now part of every sector regardless of its size or type including office administration. Digital transformation is the application and integration of digital technologies to significantly change an existing business model or strategy. Office administration is the coordination and management of various office tasks to ensure that office operations run smoothly, effectively and efficiently. Digital

transformation in office administration is not just redeploying of new technology but redesigning the entire office administration space to suit today's business idea. It is bringing about change in corporate culture, business process, market capability, and roles to be filled. Digitization and digitalization emphasise technology, while digital transformation has more to do with overall strategy and business models. Digital transformation is the action taken by organisations to stay adapted to emerging and spreading digital innovations in the external environment (Bangsawan, 2023). Digital transformation is the integration of digital technology into all areas of business, fundamentally changing how organisations operate and deliver value to customers (Kotarba, 2018). Office administration is no exception, as digital tools and technologies continue to revolutionize traditional administrative tasks and processes (Bryson, 2019). The automation of office administration gave birth to digital transformation. Opportunities and challenges of office administration in a digital transformation landscape now abound, it is no longer strange to see Artificial Intelligence and Robot carrying out tasks that were hitherto carried out by humans. Employees now interact effectively and efficiently with the different devices available thereby increasing their productivity which in turn increases profitability.

The key drivers of digital transformation in the office environment include Automation with artificial intelligence, cloud computing and data analytics which helps in getting more insights of the overflow of data, this tool helps executives take more informed decisions. Digital communication and Collaboration tools like email, instant messaging apps, video conferencing tools like zoom, Skype or Google Meet are also key drivers of digital transformation in office environment because they make office administration seamless, make tasks more accessible, faster, efficient, smarter and very effective. Social media platforms like Twitter now known as X, LinkedIn or Facebook also help to drive digital transformation in office environment.

It is important for Administrative Officers to embrace digital transformation because it enhances productivity and engagement because this landscape allows employees achieve more from any geographical location. The landscape improves customer experience and satisfaction as they can be engaged for better service delivery because it allows customers state their preferences faster. Digital transformation increases efficiency and reduces costs of operation. Embracing digital transformation allows organisations to stay competitive and very innovative.

The administrative tasks have been able to evolve over time through various introduction of tools that have designed to make office administrative tasks more efficient, automated, and technology-

driven. Evolution of office administration started with Mechanization during 1950s to 1970s, this era introduced electric typewriters, calculators, and early computer systems into the business world replacing manual processes, increasing speed and accuracy. Automation which was during the 1980s to 1990s: During this period, software applications like word processing, spreadsheet analysis, and database management emerged, by this means reducing manual labor and enhancing productivity. 1990s to 2000s ushered in era of internet and email, the widespread adoption of the internet and email revolutionized communication, enabling rapid information exchange and global connectivity. Cloud Computing came into being from 2000s and it is still present till now, this era brought about a better storage of documents into Cloud-based services like Google Drive, Dropbox, and Microsoft 365 enabled remote access, collaboration, and flexible work arrangements. These tools further protected documents in office administration.

Digital Communication Tools introduced around the 2000s till present, helped the office administration with instant messaging, video conferencing, and social media transformed the way teams communicate and interact. These are real life communication tools presenting platforms for office administration to communicate faster and decision making process streamlined. Also around the same period of year 2000 and till now, Artificial Intelligence (AI) and Automation was introduced, with AI-powered tools like chatbots, virtual assistants, and automated workflows streamlined administrative tasks, freeing up staff for other strategic work. The COVID-19 pandemic introduced and accelerated the shift to remote and hybrid work arrangements with Remote and Hybrid Work in 2020 till the present day, this is made possible with the help of digital tools and platforms to maintain productivity and collaboration. Data Analytics and Visualization (2010s-present), is helping the business world in data analytics as Advanced data analysis and visualization tools are enabling administrators make data-driven decisions, track performance, and optimize processes. The digital landscape brought about the need for Cybersecurity and Data Privacy (2010s-present), in this digital era, the growing concerns about data security and privacy led to increased investments in cybersecurity measures and compliance with regulations. Continuous Learning and Upskilling, 2010s-present, is needed to be able to remain relevant, competitive, efficient and effective in the office administration circle, the rapid pace of technological change demands ongoing training and upskilling for administrative professionals. Office Administration traditionally deals with maintaining of office services through the organisation of operations and procedures manually but gradually this traditional method of office administration is evolving and a lot of technologies are now deployed to make office



administration easier, faster and smarter. Nonetheless, there are opportunities and challenges of office administration in a digital transformation landscape which this paper intends researching.

### **Objectives of the Study**

This purpose of this paper is to examine the disruption digital transformation has over the traditional office administration; it will also make findings as follows:

1. Opportunities for office administration in a digital transformation landscape.
2. Challenges of office administration in a digital transformation landscape

### **Research Questions**

1. Is office administration encountering challenges as a result of digital transformation?
2. Do you see opportunities for office administration in digital transformation landscape?

### **Hypotheses**

The following null hypotheses were tested at 0.05 significance level:

- H<sub>01</sub>: There are no opportunities for office administration in a digital landscape
- H<sub>02</sub>: There are no challenges for office administration in a digital landscape

### **Review of Literature Review**

Office administration is the backbone of any well-functioning business, encompassing a range of tasks from managing correspondence to organizing records, he added that it requires a blend of skills, including communication, organisation and technical know-how. it refers to the daily duties completed within an office, Malcom Tatum (2024). It may involve communicating with clients and team members via phone, email and in person, maintaining an organised filing and record system, planning events and meetings, creating schedules, monitoring finances, booking appointments and any other tasks applicable to the individual office. Office administration creates an organised and efficient workplace, helping to manage work and employees associated with the office. It acts as a support system, providing resources for assistance and troubleshooting when necessary. Office administration ensures continual monitoring and supply of office products and effective, timely maintenance and repairs.

Digital transformation can be defined as the integration of digital technologies into all aspects and operations of an organisation, which in turn leads to infrastructural changes in the way the organisation is operated and delivers value to its customers. (Putri & Hariyanti, 2022). Digital transformation is integrating technologies to process of service or job delivery of an organisation



to have a more robust and effective service delivery. It is putting in place necessary policies, actions and technologies that can improve operations, process, and communication as well as increase the overall efficiency and effectiveness of the organisation. Digital transformation is the deployment of various technologies into all aspects of business operations. It basically changes the direction of business operations and delivers value to customers. Digital business transformation is an objective process that responds to changes in the business environment. (Firmansyah et al., 2022). Stakeholders can navigate the challenges and capitalize on the opportunities presented by digital disruption, ultimately contributing to economic transformation and sustainable development. (Chusumastuti et al., 2023).

The potential of technologies that enable digitization and facilitate digitization plays an important role in the context of digital transformation. Today, products are manufactured with mechanical and electronic components and represent complex systems that allow for the interconnectedness of hardware, software, and data storage. This makes products more intelligent and interconnected. In addition to products, new business models require services, processes, and value chains to be digitized. For companies whose success was achieved pre-digital, digital technology represents an opportunity for change. Digital transformation not only provides opportunities to empower staff and improve operations, but also has the potential to make managing staff more challenging (Panggabean, 2021). The main goal of digital transformation is to redesign the organisation's business through the introduction of digital technologies and beneficial achievements, such as productivity, cost reduction, and increased innovation. Digital transformation leads to the functional use of the internet in designing, creating, selling, displaying, and data-driven modeling management (Sukarmi et al., 2021).

### **Opportunities in Digital Transformation Landscape**

Digital transformation in any landscape be it business or individual lives comes with various great opportunities. Automation is an opportunity digital landscape is the creation and application of technology to monitor and control the production and delivery of products and services. Digital customer engagement is another opportunity and it shows ways customers interact with business via technology, and how the business also interrelates with their customers through the use of email, social media, and even website. These interactions show relationship pattern or trend with the customers and this helps businesses know what their customers want to do not as regards brands. Data analytics is another opportunity window in digital transformation, it is the process of analyzing large datasets to uncover patterns and trends that can help establishments or business

organisations take informed decision. It involves collecting data from a variety of sources and using analytical tools to illustrate trends. Part of the digital transformation in a business landscape is the ability to work from any location without appearing physically at the regular office space provided by the organisation. Employees only use digital tools to connect to work, collaborate with colleagues and accomplish tasks remotely.

E-commerce (electronic commerce) is another digital transformation power whereby buying and selling of goods and services, or the transmitting of funds or data, happens over an electronic network, that is the internet. These e-commerce transactions are usually within four platforms: business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C) or consumer-to-business (C2B). The incorporation of advanced technologies like AI, IoT, robotics into production processes helps to increase efficiency and productivity. Employees must be empowered to acquire digital skills to be able to operate in the digital landscape, these skills are a set of knowledge, experiences and capabilities to use digital devices and technologies in an efficient and useful manner. It enables individuals manage and share digital content effectively and creatively which leads to increased accuracy, efficiency, quality and productivity in all activities of public and practical life.

### **Benefits of Digital Transformation Landscape**

It is strongly advised that organisations should invest in training their employees to be relevant in digital transformation so that they would not be left behind in the transformation that technology is bringing, doing this will afford organisations to be free from burden of tedious and labourious because such tasks can easily be achieved with technological advancements. If employees and managers could work in an environment where their most time-consuming tasks can be completed by better means, it would allow them to work more efficiently and productively on other tasks. With today's technological advancement, lots of processes within organisations that take up a lot of time could easily be restructured. Digital transformation skills can be utilized within any kind of workforce to automate those processes. This gives businesses leverage to meet their customers' needs and allow them develop the digital transformation skills of their entire staff which will eventually give them competitive advantage in the industry they are operating. It is wise for organisations to continue to develop skills in digital transformation which can help them give their customers platforms to express their preferences. The happier their users are, the more they enjoy increased loyalty from them which in turn leads to higher revenue.

Taking on relevant new technologies give businesses more knowledge about their target markets and the current market trends that can be used to create brands that meet the needs of customers more efficiently. Organisations that welcome transformations skills reach their business goals faster than competitors. By investing in the development of digital skills, organisations easily get a competitive edge in the market because they remain responsive and adaptive to the needs of their customers, it allows their workforce come up with unique ideas, giving them the needed edge against their competitors. Digital transformation enables organisations to easily know the skills of their employees and training opportunities that can be annexed, managers that utilize updated digital processes and platforms allow greater collaboration between employees, which in hand leads to better performance and retention within the workforce moving forward.

### **Challenges in Digital Transformation Landscape**

In spite of the outlined opportunities, digital transformation comes with some challenges and if not properly handled can cause a lot of issues for administration of the office. Many organisations are afraid of change or transformation, they prefer to stick to the conventional ways of working making it difficult for them to enjoy the array of positivity embedded in emerging technologies and procedures. A solid strategy is an important factor for digital transformation to be successful without it, organisations cannot expect to get ahead in the digital transformation race. A common challenge that a lot of businesses face is the lack of expertise and knowledge because even with a strong leadership, organisations with employees that do not have proper technical skills risk a slow transformation therefore, ensuring an applicable training plan in place will lead to employees having the right skills that will propel the organisation into a positive limelight. Digital transformation works well with the combination of talent and technology hence organisations should improve their digital literacy within their workforce, because being digitally literate will enable businesses build the skills needed for innovations and give their businesses an edge in the digital transformation race. A competent, effective and efficient employee will help organisations successfully drive a digital transformation within an organisation, so organisations should not just think in line of acquiring latest technologies without having employees that will be competent to use the technology, anything short of that may result in a total waste of time and resources. A huge challenge with digital transformation is getting the financial capacity to finance it because it may come very expensive to acquire but what must be done to help the organisation move forward has to be done, organisations must learn to include the cost of digitalization into their budgets.

## Theoretical Review

### Disruptive Innovation Theory

Disruptive Innovation Theory describes how new technologies disrupt the traditional flow of business models and create new markets. This theory suggests that often times existing firms fail because they are not quick to welcome disruptive innovation. The theory further explains how new technology or innovation cause disruption in existing markets but create opportunities for new businesses. The theory posits that disruptions happen in two stages, service or product is released to the market cheaper than what is available in the market to win over customers in the first stage, when the customers have been swayed over and they are now established in the market, quality and performance are increased in the second stage to retain their customers. The innovation simplifies and makes more affordable products and services to ignored markets.

### Methodology

This study used quantitative survey research design. The population of the study comprised of 72 Administrative Officers of National Orthopaedic Hospital, Lagos with a sample size of 62 respondents using Taro Yamane formula. Data was collected through a structured questionnaire from the respondents. The instrument used a five-point Likert-type scale which allowed respondents to choose from a list of options - Strongly Agree-5, Agree-4 Strongly Disagree-3, Disagree-2 and Not Sure-1 to drive home their choices or answers questions asked in the questionnaire. Statistical analysis carried out on SPSS version 26 included inferential statistics, ANOVA and Pearson correlation which measured the strength and direction of association between the two ranked variables which are digital landscape as independent variable and opportunities and challenges in a digital transformation landscape as dependent variables.

## Analysis and Discussion

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Std. Error
DigitalLandscape	62	2.33	5.00	4.4892	.54894	-1.705	.304
OpporandChall	62	2.00	5.00	3.7880	.69829	-.491	.304
Valid N (listwise)	62						

The mean of digital landscape is 4.4892 and the mean of opportunity and challenges is 3.7880 Therefore the mean of digital landscape is higher to that of opportunity and challenges indicating

that there is wide margin of difference in the values of the mean of digital landscape and the mean of opportunity and challenges.

### Correlations

		DigitalLandscape	OpporandChall
gitalLandscape	Pearson Correlation	1	.295*
	Sig. (2-tailed)		.020
	Sum of Squares and Cross-products	18.382	6.906
	Covariance	.301	.113
	N	62	62
OpporandChall	Pearson Correlation	.295*	1
	Sig. (2-tailed)	.020	
	Sum of Squares and Cross-products	6.906	29.745
	Covariance	.113	.488
	N	62	62

\*. Correlation is significant at the 0.05 level (2-tailed).

		DigitalLandscape	OpporandChall
Spearman's rho	DigitalLandscape	Correlation Coefficient	1.000
		Sig. (2-tailed)	.030
		N	62
	OpporandChall	Correlation Coefficient	.275*
		Sig. (2-tailed)	.030
		N	62

\*. Correlation is significant at the 0.05 level (2-tailed).

The Spearman's correlation coefficient measures the strength and direction of association between two ranked variables which are digital landscape and opportunities and challenges in a digital transformation landscape. For digital landscape and opportunities and challenges in a digital transformation landscape, the Spearman's correlation coefficient is .275, this indicates a positive correlation between the two variables which means that as one variable increases the other one increases as well. The p-value associated with the correlation coefficient measures the probability of maintaining a correlation between the two variables. It is noted that there is a correlation between the two variables. In this case, the p-value is 0.030 while the level of significant value is 0.05, the correlation is considered statistically significant at 0.05 level. The significant positive correlation (r) which is 0.275, p-value 0.030 suggests that there is a positive, but weak relationship between digital landscape and opportunities and challenges in a digital transformation landscape. Hence, the null hypothesis which stated that "There are no opportunities for office administration in a digital landscape" is rejected. This implies that there are opportunities and challenges in digital transformation landscape.

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.295 <sup>a</sup>	.087	.072	.67268	.087	5.734	1	60	.020

a. Predictors: (Constant), DigitalLandscape

## ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.595	1	2.595	5.734	.020 <sup>b</sup>
	Residual	27.150	60	.452		
	Total	29.745	61			

a. Dependent Variable: OpporandChall

b. Predictors: (Constant), DigitalLandscape

## Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	Correlations		
		B	Std. Error	Beta	T		Zero-order	Partial	Part
1	(Constant)	2.101	.710		2.962	.004			
	DigitalLandscape	.376	.157	.295	2.395	.020	.295	.295	.295

a. Dependent Variable: OpporandChall

While the model is statistically significant (p-value = 0.020) at 0.05 level, indicating that there is some relationship between digital ergonomics and health and wellbeing, the strength or explanatory power of this relationship is weak (R Square = 0.087). This implies that only a small proportion of the variance in the dependent variable is accounted for by the independent variable(s), indicating that digital ergonomics alone may not be sufficient to fully explain variations in health and wellbeing among office managers. Hence, the hypothesis is which stated that “there are no challenges for office administration in a digital landscape” is hereby rejected. Thus, there is a statistically significant, but weak relationship between opportunities / challenges and digital landscape.

## Findings

Findings of this study shows that digital transformation is actually reshaping the operations of office administration as it has made it easier, faster, economical and smoother. It has also found out that it is positively affecting the strategy and policies of organisations. It is improving communication amongst staff members and helping with faster decision making. Digital transformation landscape is improving and encouraging quicker access to service because of various e-platforms and engagement with customers via these e-platforms.

## Conclusion and Recommendations

With digital transformation which is all about combining technology with strategy, office administration has greatly been optimized and challenges hitherto encountered with the manual way of working has reduced thereby increasing productivity, improving communication and empowering staff members to be more committed to the service delivery. Digital transformation reduces cost of operation and returning optimal efficiency, effectiveness and productivity. It is important for organisations to give the desired organisational support by providing all the necessary digital tools for Office Administrators. It is important for employees to attend various training so as to stay relevant and competitive. This study is hereby recommending that organisations should organize programs or lectures on how staff members can improve and apply their knowledge in digital transformation. It is further recommended that organisations should embrace a change management strategy to foster a culture whereby staff members can easily adopt digital transformation because without this strategy it becomes very difficult for the expected change to be experienced. A robust cybersecurity measures should be implemented is needed in digital transformation, organisations should ensure that data protection of all activities is given a big priority.

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## Emerging Fourth Industrial Revolution and Library Services Delivery

<sup>1</sup>BADMUS, Bibire Nurat & <sup>2</sup>OGUNLANA, Emmanuel Kunle

<sup>1</sup>University of Lagos, Lagos

<sup>2</sup>Federal University of Agriculture, Abeokuta, Ogun State

<sup>1</sup>nuratbadmus@unilag.edu.ng; <sup>2</sup>ogunlanaek@funaab.edu.ng

### Abstract

*In comparison to previous revolution periods, the swiftness of technological innovation and transform is faster than ever in the Fourth Industrial Revolution (4IR). The pace of the digital revolution has transformed the workplace into a global center that seamlessly integrates diverse devices into one or more cloud ecosystems. Generative artificial intelligence (GAI), disruptive technologies, and machine learning have grown in relevance and provide an excellent foundation for library service delivery. Based on Unified Technology Acceptance and Use of Technology (UTAUT), this study aims to investigate library and information personnel attitudes toward and acceptance of 4IR emerging technologies, as well as the factors that lead to the use of 4IR in university libraries. The study used the survey research design. Data was analysed using descriptive statistics and regression analysis. This study's respondents were 120 library and information personnel selected randomly from federal universities in South West Nigeria. To determine if there is a significant relationship between the variables, structural equation modeling was performed. The findings revealed that all five dimensions of the UTAUT model had substantial effects on the behavioral intention to use of library and information professionals, with varying degrees of influence. The findings also revealed that the behavioral intentions of library and information professionals had a strong favorable influence on 4IR usage. The findings imply that the 4IR age will bring significant changes to how library services are efficiently offered.*

**Keywords:** Fourth Industrial Revolution (4IR), Unified Technology Acceptance and Use of Technology (UTAUT), Library and Information Personnel, Performance Expectancy, Effort Expectancy.

### Introduction

The spread of technology has been substantial in libraries and information centers. Libraries employ wide range technologies including system automation, mobile apps, and resource management via mobile devices. Emerging technologies are changing work strategies and lowering barriers. As a result, library and information personnel must adapt these emerging and appropriate technologies in order to provide successful and effective service. The fourth industrial revolution (4IR) is associated with a lot of changes that intends to impose digitalization, networking, and virtualization in all aspects of life. 4IR produces disruptions while also opening up new opportunities. 4IR provides library and information personnel with a combination of

traditional and digital topic knowledge such as generative artificial intelligence (GAI), augmented reality (AR) and the Internet of Things (IoT).

The pace of technological innovation and development is greater than ever before. The number of users is steadily expanding, and the amount of data acquired is growing exponentially. The digital swing is moving at a rapid velocity, closing the gap between human, physical, and machine as a consequence of worldwide acceptability, particularly at work. Work and its significance are changing; workplaces are being led by digitalisation and big smart ecosystems as a result of 4IR, thus individual employees must balance the efficiencies of technological innovation with job and employment conceptions (Chearavanont, 2020). 4IR differs from earlier revolutions in terms of technology speed, scope, and the amazing influence of new systems, all of which have important implications for this generation. 4IR components such as artificial intelligence (AI), radio frequency identification (RFID) and machine learning (ML) are becoming increasingly significant in enabling workers to do work and business (Awodiji & Katjiteo, 2023). This means that library and information professionals will need to re-imagine new ways of doing work and incorporate 4IR technology into their workplace designs and concepts. 4IR is the smooth integration of various gadgets into one or more ecosystems. 4IR is about integrating hardware, software, and physical components via the Internet of Things, devices, and people. The 4IR's inclusive nature allows for a user-centric one-touch experience for all library users, resulting in an environment where all users have access to library collections.

UTAUT, developed by Venkatesh, et al. (2003) is a model for predicting user intention to use technology. UTAUT suggested two key factors that influence behavioral intention to use: performance expectations and effort expectations. Performance expectations such as perceived usefulness in TAM are pertaining to users' perceptions of how much technology assists their vocation. Effort expectations are the inverse of perceived ease of use in TAM; user-perceived effort to use technology. UTAUT model is adopted as the theoretical framework for determining and examining the factors that influence the library and information personnel's behavioral intentions to accept and use 4IR in library service delivery. The UTAUT model recognizes performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating condition (FC) using gender, age and experience as direct determinants of acceptance and usage behavior of users.

## **Statement of the Problem**

The disruptive developments caused by the introduction of 4IR have had an influence on library and information personnel's ability to provide services. While the widespread subject on the modality of managing the 4IR novelty by library and information personnel in order to remain relevant and deliver effective library services using sophisticated technology remains a major worry, particularly in developing countries such as Nigeria. Many libraries and personnel, however, are finding it difficult to embrace the changes brought about by the 4IR due to a lack of awareness of the fundamentals of the 4IR, a lack of required positive attitude, a change in the services provided by the library, and significant changes in the services rendered by libraries, as well as a lack of required skills. Furthermore, efficient library service delivery depends on library and information personnel awareness of 4IR and associated technologies, personnel's positive attitude towards changes and the 4IR required skills. It is on the basis of the aforementioned that this study will examine the emerging fourth industrial revolution and library services delivery using the five constructs of UTAUT to determine library and information personnel awareness and positive attitude in selected university libraries in South West Nigeria.

The objective of this study is to examine library and information personnel use of 4IR as an emerging fourth industrial revolution (4IR) in selected university libraries in South West Nigeria. Other objectives include ascertain the performance expectancy of library and information personnel of the 4IR; ascertain library and information personnel effort expectancy to embracing 4IR, and assisting facilitation effective service delivery in selected university libraries in South West Nigeria

## **Hypotheses**

Based on the objectives, the following hypotheses are formulated:

- H<sub>1</sub>: Performance expectancy is significant to library and information personnel use of 4IR
- H<sub>2</sub>: Effort expectancy predicts library and information personnel use of 4IR
- H<sub>3</sub>: Social influence predicts library and information personnel use of 4IR
- H<sub>4</sub>: Facilitating control predicts library and information personnel use of 4IR

## **Literature Review**

Marwala (2019) and Ocholla and Ocholla, (2020) concluded that libraries must be piquant in responding to 4IR. However, Hussain (2019) claimed that libraries have been hugely impacted by the 4IR and that their continued existence is dependant on their ability to align with the design principles of 4IR. According to van Wyk and Ssemugabi (2023) 4IR is a propos harnessing

technologies that allow personnel further to positively impact their organisations and communities with the goal of creating an organized society that generates value, while Ocholla and Ocholla, (2020) opined that personnel dexterity in adopting new technology can be applied in academic, national and public libraries. According to Hussain (2019) the impact of 4IR is being felt and virtually all spheres of life endeavour are being altered by it, and it has had a significant impact on libraries, thus libraries persistent relevance is dependent on the aptitude to align with 4IR modalities, standard and blueprint principles. Libraries transition in delivering technology efficiently leads to personnel to take advantage of improvement in 4IR technology in the contemporary information environment as essential driver for providing quality and efficiency library services. Marwala (2019) advised against the danger of interpreting and reacting to the 4IR from a traditional and familiar library paradigm

Usoro, Ezekiel and Ojobah (2021) stated that the intricacy of 4IR technologies exceeds expectations, requiring library and information personnel to undergo different training and reequip themselves in order to provide effective and efficient service. The benefit of 4IR to librarian includes working from home, the adoption of artificial intelligence, more connections and communications for libraries, online monitoring of staff performance and monitoring services from home, while 4IR will continue to change library and information personnel job duties. Ajani, et al. (2022) identified lack of motivation, lack of synergy between training institutions and the industry, inadequate funding, paucity of skilled personnel, and negative attitude towards learning new skills as challenges associated with 4IR. Equipped with 4IR training, according to Izuagbe, et al. (2019) library and information personnel will perfect their duties with dexterity; improve performance and augments labor by reducing daily tasks and repetition, whereas Ayinde and Kirkwood (2020) reinstated that library and information personnel must garner knowledge and skills on 4IR technologies.

According to Venkatesh et al. (2003) UTAUT is a significant theory for investigating behavioral intentions on acceptance and actual use of technology. Using workplace environment, four core indicators of technology acceptability and use were developed and formulated based on eight theoretical frameworks. Performance expectancy (anticipated advantages from using technology), effort expectancy (the expected ease of use), social influence (strong belief from others that technology should be used) and facilitation condition (expected technical assistance while using technology). Existing research suggested that library and information personnel should embrace

new technology as part of their transition to digital platforms in order to remain relevant to space user users (Gul & Bano 2019).

Performance expectancy describes individual's assumption on how the use of technology assist in improving job performance. The indicators in performance expectancy include perceived usefulness, extrinsic motivation, job-fit, relative advantage, outcome expectation. The influence of performance expectancy on technology acceptance is intervened by gender and age. Al-Mamary (2022) described effort expectancy (EE) as the extent of ease linked with the exploit of technology including perceived ease of use, complexity and ease of use while moderating the EE construct with gender, age and experience. Effort expectancy is the level of ease associated with the use of technology. It is an essential aspect that influences behavioral intentions toward technology. Effort expectancy determines the ease of connecting with technology (Venkatesh et al., 2003). Effort expectancy indicates the levels of ease of use of technology, using technology does not require great effort and with persistent usage personnel will increase or strengthen the desire to use and thus affect their actual behavioral intention.

According to Venkatesh, Thong, and Xu (2016) the relationship between effort expectancy and behavioral intention is often found to be significant and positive however Khechine et al. (2020) established an insignificant relationship between effort expectancy and behavioral intentions. Aqlan et al. (2021) discovered the effect of performance expectations on intention to use technology, the study also revealed that performance expectancy (PE) determines a person's attitude toward using information system, and PE have a substantial and beneficial impact on personnel who adopts behavioral goals. Yuliana and Aprianingsih, (2022) concluded that personnel with high expectation for the performance of a technology will also have a strong willingness to use technology. Library and information personnel behavior is affected by UTAUT. The UTAUT theory comprises performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). PE refers to library and information personnel belief that 4IR will assists in delivering effective library services, EE will ease of using their use of 4IR, SI is considered as the perceived magnitude of the 4IR while FC denotes the extent to which library and information personnel believe that existing resources make possible the use of 4IR.

## **Methodology**

The study adopted the survey research design as it involved collecting data through a structured and self-administered questionnaire and the target population for the study comprised of all the

library and information personnel in federal universities in South West while 120 library and information personnel were randomly selected and served as the respondents of this study. As at the time of the study, there were 6 federal university libraries and 12 state university libraries in the South West Nigeria. The questionnaire is divided into two sections Section A deals with participants' demographic information and section B contained UTAUT model statements on performance expectation and effort expectation using a four-point Likert scale of strong agreed (SA), agreed (A), disagreed (D) and strongly disagree (SA). 120 copies of questionnaire were distributed to the respondent face to face in the selected university libraries and a total of 116copies of questionnaire was duly completed and found usable, therefore there was 96.7% response rate.

The study used an instrument adapted from past research work on UTAUT, and in order to predict the UTAUT factors, Confirmatory Factor Analysis (CFA) technique to develop latent factors was used. These latent factors than have been used for Path analysis via Structural Equation Modeling (SEM) used to analyse the study developed by Joreskog (1979). The study finds SEM suitable since the normality assumption of the study is doubtful and the sample size is also small.



## Descriptive Analysis of Demographic Characteristics

**Table 1: Showing frequency distribution of respondents' demographic characteristics**

S/ N	Item	Frequency	Percentage	Means	Standard Deviation
1	<b>Gender</b>			<b>32</b>	<b>1.81</b>
	Male	47	40.5		
	Female	69	59.5		
2	<b>Marital Status</b>			<b>43</b>	<b>3.06</b>
	Single	21	18.1		
	Married	89	76.7		
	Widowed	6	5.2		
3	<b>Age</b>			<b>28</b>	<b>2.41</b>
	21-30 Years	21	18.1		
	31-40 Years	24	20.7		
	41-50 Years	28	24.1		
	51-60 Years	31	26.7		
	61-70 Years	12	10.3		
4	<b>Years of Work Experience</b>			<b>23</b>	<b>2.37</b>
	1-10	26	22.4		
	11-20	37	31.9		
	21-30	21	18.1		
	31 and Above	32	27.6		
5	<b>Educational Qualifications</b>			<b>41</b>	<b>2.03</b>
	PhD	62	53.4		
	Masters	39	33.6		
	First	15	12.9		
6	<b>Designation</b>			<b>26</b>	<b>2.71</b>
	Assistant Librarian	24	20.7		
	Librarian I	20	17.2		
	Librarian II	36	31.0		
	Senior Librarian	29	25.0		
	Principal Librarian	21	18.1		
	Deputy University Librarian	7	6.0		
	University Librarian	3	2.6		

**N=116 (Source: Field Survey, 2024)**

Table 1 above indicates the frequency distribution of the respondents' demographic characteristics for this study. The result shows that out of the 116 participants 47 (40.5%) males and 69 (59.5) females in the sample ( $M = 32$ ,  $SD = 1.81$ ) while marital status of the respondents stand at single 21 (18.1%) married 89 (76.7%) and widowed 6 (5.2%) ( $M = 43$ ,  $SD = 3.06$ ) University Librarian and Deputy University Librarian accounted for 2.6% and 6.0% respectively, Principal Librarian are 21 (18.1%), Senior Librarian 29 (25.0%), Librarian II 36(31.0%), Librarian I 20(17.2%) and Assistant Librarian 24 (20.7%) the mean score and standard deviation are ( $M = 43$ ,  $SD = 3.06$ ).

**Table 2: Independent samples t-test showing of respondents based on Gender**

S/N	Item	Male n=47		Female n=59		T	Df	P	D
		Mean	SD	Mean	SD				
1	Performance Expectation	4.28	0.56	4.33	0.57	4.19**	115	0.739	0.311***
2	Effort Expectancy	3.89	0.63	3.88	0.66	3.15**	115	0.722	0.506**
3	Social Influence	3.89	0.62	3.78	0.58	3.41**	115	0.38	0.510***
4	Facilitating Condition	3.91	0.59	3.91	0.61	3.24**	115	0.46	0.502**
5	Attitude	3.88	0.60	3.75	0.52	3.22*	115	0.529	0.484**
6	Behavioral Intention	4.01	0.65	3.92	0.66	2.36*	115	0.371	0.520***

**Note:** \*p<.05 (two tailed); \*\*p<.001 (two tailed)

\*\* Small effect, practically non-significant

\*\*\* Medium effect and moving toward practically significant

\*\*\*\* Cohen's D –statistics not calculated as the variable was not statistically significant

**Source: Author Estimations**

Table 2 above shows the means, standard deviations, and differences based on gender. Male in library and information personnel mean score is higher effort expectancy than their female counterpart and female participants obtained higher scores in performance expectancy. Meanwhile, male library and information personnel got higher scores in both behavioral intention (4.01) and attitude (3.88) Based on the independent sample t-test carried out, the result revealed that the differences were significant. The magnitude of gender different appears to be larger for performance expectancy (.73) and a small size for behavioral intention (0.37). The independent sample t-test was associated with a statistically significant effect  $t(115) = 4.33$ ,  $p = 0.739$  for performance expectation;  $t(115) = 3.15$ ,  $p = 0.722$  for effort expectancy;  $t(115) = 3.41$ ,  $p = 0.46$  for social influence;  $t(115) = 3.24$ ,  $p = 0.46$  facilitating condition;  $t(115) = 3.22$ ,  $p = 0.4529$  for attitude and  $t(115) = 2.36$ ,  $p = 0.371$  for behavioral intention to use. These were in agreed with Cohen (1992) on classification of effect sizes.

**Table 3: Showing the Measurement Model Result (Reliability, Validity and Factor Loading)**

Construct	Items	Loading	Composite reliability $\geq 0.7$	Convergent Validity $\geq 0.7$
Performance Expectancy	PE2	.857	0.95	0.93
	PE3	.874		
	PE3	.856		
Effort Expectancy	EE1	.915	0.96	0.96
	EE2	.922		
Social Influence	SI1	.877	0.95	0.92
	SI3	.845		
	SI4	.838		
Facilitating Condition	FC1	.934	0.93	0.93
	FC2	.913		
	FC3	.935		
	FC4	.922		
Behavioral Intention to use	BI1	.933	0.95	0.95
	BI2	.954		
	BI3	.945		
	BI4	.934		

Source: Author Estimations

Table 3 shows the loading strength of the constructs with the latent factors, analysis above shows that all the constructs satisfactorily met the criteria for reliability with  $\alpha > 0.7$ . Hence, it is concluded from the above results that the measurement model showed the internal consistency and has convergent validity. From the table 4, all the constructs have loading above 0.7 which is in accordance with the criteria given by Ali and Raza (2015). The above results revealed that the entire constructs displayed the pleasing level of reliability, appropriate for the latent variables and statistically significant.

**Table 4: Showing the Path Analysis**

		Path Coefficients	P-Value
PE →	Behavioral Intention to use	0.219	0.000
EE →	Behavioral Intention to use	0.319	0.338
FC →	Behavioral Intention to use	0.009	0.501
SI →	Behavioral Intention to use	-0.028	0.351

Source: Authors' Estimations

Table 4 above explanation strength of the model evaluated with the value of R<sup>2</sup> at 0.502. This showed that all the independent variables can predict around 50.2% of the dependent variable. From the path analysis, the hypotheses are assessed on the basis of size, sign, and coefficient value. The higher the coefficient value the stronger the association between the dependent and the independent variable. The hypotheses were placed to be supported at the significance level of 0.1.

This study has been to extend the application of UTAUT model to 4IR technology, thus investigated the application of UTAUT as a theoretical framework for predicting library and

information personnel intention to use 4IR and provide suggestions to invest logically in improving in certain areas that are likely to provide a better overall result. Analysis illustrated that library and information personnel performance expectancy, effort expectancy, facilitating intention, and social influence plays a significant role in predicting personnel intention to use 4IR. The path linking PE (0.219) and behavioral intention is found positive and significant, effort expectancy (0.319) and behavioral intention is found positive and significant. Also the path linking facilitating condition (0.009) and BI is found significant and positive while the path linking SI (-0.028) and BI is negative and significant. From the analysis, it is revealed that three (3) out of four (4) hypotheses were accepted, and there is no substantive proof of any significant relation between social influence and BI to use 4IR technology by library and information personnel services, therefore, hypothesis 4 is rejected while hypothesis 1 -3 are accepted.

### Conclusion

This study examined librarians' awareness, attitude and emerging fourth industrial revolution (4IR) in selected university libraries in South West Nigeria using UTAUT. The results of this research has indicted that performance expectancy, effort expectancy, facilitating conditions and social influence have direct effect on the library and information personnel behavioral intention to use 4IR. Furthermore, the results revealed that library and information personnel are using 4IR technologies for efficient and effective service delivery. From the result, it implies that use of 4IR have great impacts on library services thus with an extension to personnel be able to render services in better means and methods. Further, library and information personnel gives room to external contributors to render one or two opinion in providing better services, that is, social influence encouraged them to use 4IR, also facilitating conditions assists them in use of 4IR, thus the study is consistent with some past research and their findings.

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## Secretarial Profession in the Digital Age: Challenges and Prospects

<sup>1</sup>FASIPE, O. O., <sup>2</sup>OGUNTAYO, O. O., & <sup>3</sup>WAHEED, B. A.

The Polytechnic, Ibadan<sup>1,2</sup>, University of Ibadan<sup>3</sup>, Ibadan, Oyo State  
yemfash1971@gmail.com<sup>1</sup>, oguntayoomotayo2018@gmail.com<sup>2</sup>,  
waheedbasitadebayo@gmail.com<sup>3</sup>

### Abstract

*As the digital revolution reshapes work landscapes, the secretarial profession finds itself at a pivotal juncture. This study critically examines the evolving nature of secretarial roles in the digital age, analysing both the unique challenges and promising opportunities that emerge. Traditional secretarial responsibilities encounter significant transformations due to automation, artificial intelligence, and digital tools. This necessitates skill set diversification, with proficiency in project management platforms, virtual assistance tools, and data analysis becoming increasingly crucial. The study explores anxieties surrounding role redefinition and potential job displacement, prompting a critical look at the implications of technological advancements. Advocating for proactive adaptation, the study highlights the imperative for digital literacy and continuous learning within the secretarial profession. It emphasises a mind-set shift, encouraging secretaries to view technology not as a threat, but as an enabler for enhanced efficiency, productivity, and ultimately, increased value within organisations. Despite the challenges, the study paints an optimistic future for secretaries in the digital age. Advancements like virtual assistance, task automation, and AI integration empower them to transcend administrative tasks and assume strategic responsibilities. This opens doors for professional growth and career progression, allowing secretaries to become data analysts, project managers, and even client liaisons. In conclusion, this analysis provides a comprehensive overview of the challenges and prospects inherent in the secretarial profession as it navigates the complexities of the digital era. By shedding light on these dynamics, the study aims to contribute to the ongoing discourse on the adaptation and evolution of the secretarial role within the contemporary, technologically-driven workplace.*

**Keywords:** Secretarial Profession, Digital Transformation, Digital Age, Office Management, Office Administration

### Introduction

The image of the "secretary" - clattering typewriter, impeccably organized desk, and omnipresent coffee pot - seems almost quaint in our digitally driven world. Yet, the role endures, transformed rather than replaced by the relentless march of technology, Fasae (2023). This paper argues that far from diminishing, the digital age presents exciting prospects for the secretarial profession, even while acknowledging the undeniable challenges it brings. Gone are the days of basic administrative tasks; today's secretaries are information managers, technology navigators, and strategic partners. They wield powerful tools like project management software, cloud-based



communication platforms, and artificial intelligence assistants Okolocha & Osahon (2015). While these advancements streamline routine tasks, they also demand new skillsets and adaptability.

This paper navigates this dynamic landscape, delving into the challenges posed by automation, the ever-evolving tech landscape, and the potential for job displacement. However, it doesn't dwell on anxieties. Instead, it focuses on the prospects that technology unlocks. Secretaries equipped with the right skills and mind set can embrace automation as a force multiplier, freeing them to focus on higher-level tasks like project coordination, data analysis, and strategic support. This exploration ultimately argues that the secretarial profession is not fading, but evolving. By embracing continuous learning, up-skilling, and a willingness to adapt, secretaries can not only survive but thrive in the digital age, becoming even more critical players in organisational success, Mumuni & Sam (2014). The digital age has significantly transformed the secretarial profession, shifting it from traditional tasks like typing and filing to requiring a mastery of digital tools, adaptability to remote work, and continuous learning to keep pace with technological advancements such as artificial intelligence. This evolution poses challenges including job displacement and the need for new skills, but also offers opportunities for professional growth in areas like digital content management and virtual event planning. The paper explores these changes, focusing on the dual aspects of challenges and prospects, aiming to understand how the profession can maintain its relevance and thrive in the digital future.

## **Literature Review**

### **Secretarial Profession**

IAAP (2023) opined that the secretarial profession encompasses a range of administrative and support roles within an organisation, typically focused on assisting executives, managers, or teams in their day-to-day activities. Secretarial professionals, often referred to as secretaries, administrative assistants, office managers, meeting planners or executive assistants, play a crucial role in maintaining the smooth functioning of an office or business, ILO (2021). While the specific duties may vary depending on the industry and organisational structure, common responsibilities include: administrative support whereby secretaries assist in routine administrative tasks such as managing correspondence, handling phone calls, scheduling appointments, and organizing meetings. Document Management: They are responsible for creating, editing, and organizing documents, reports, and presentations. This may involve word processing, data entry, and maintaining filing systems. Communication: Secretaries serve as a point of contact between executives and other staff members, clients, or external stakeholders. They may draft emails,



answer phone calls, and communicate on behalf of their superiors. Secretaries often manage the schedules of executives, arranging meetings, appointments, and travel plans. They need to coordinate various activities to ensure efficient use of time. This responsibility is categorized as calendar management. Secretaries are information coordinators. They gather, compile, and organize information needed by their superiors for decision-making purposes. This may involve research, data collection, and analysis. Event Planning: Some secretaries are involved in organizing and coordinating events, conferences, or seminars. This includes logistical planning, coordination with vendors, and ensuring the smooth execution of the event. Secretaries often handle sensitive information and are expected to maintain a high level of confidentiality and discretion in their role. This responsibility is tagged as confidentiality.

### **Digital Age**

The "digital age" refers to the contemporary era characterized by the widespread use and integration of digital technologies into various aspects of human life, including communication, commerce, education, entertainment, and more, leading to increased connectivity, efficiency, and innovation. This period has seen a profound shift from traditional analogue and manual processes to digital, computer-based systems. Key aspects of the digital age include digital technologies, such as computers, smartphones, tablets, and the internet, have become ubiquitous in daily life. In digital age, there is connectivity which allows instant access to information, communication, and services on a global scale. Massive amounts of information are available online, enabling rapid and widespread access to knowledge, this is known to be information accessibility

According to Oladeji and Afolabi (2021), in the context of the roles of a secretary, the digital age brings about several changes and opportunities. It has transformed the secretary's role by introducing new tools, communication methods, and work structures. Secretaries who embrace these changes and develop digital literacy skills are better equipped to enhance organisational efficiency in the modern workplace. Secretaries are now heavily involved in managing digital communication, handling emails efficiently, and ensuring that executives stay connected with colleagues, clients, and stakeholders. With the digital age secretaries facilitate virtual meetings using video conferencing tools, ensuring seamless communication and coordination among team members. They are also responsible for managing digital documents, ensuring that files are organized, accessible, and secure. This may involve using document management systems and cloud-based storage solutions. Secretaries leverage digital calendars and scheduling tools to manage appointments, meetings, and deadlines efficiently. With the help of digital age,

automation tools may be used to streamline repetitive tasks, allowing secretaries to focus on more strategic aspects of their roles. These automation tools empower secretaries to optimize their workflows, reduce manual effort, and allocate more time to strategic and value-added tasks within their roles.

Secretaries facilitate collaboration among team members by utilizing digital platforms for file sharing, discussions, and real-time updates. In the era of remote work, secretaries play a key role in facilitating communication and collaboration among team members who may be working from different locations. Cloud-based solutions enable secretaries to access and manage records from various devices, fostering flexibility and efficiency.

In essence, the digital age has transformed the secretary's role by introducing new tools, communication methods, and work structures. Secretaries who embrace these changes and develop digital literacy skills are better equipped to enhance organisational efficiency in the modern workplace (Oladeji & Afolabi, 2021). The digital age has undoubtedly transformed the secretarial landscape. While technology like AI and automation have streamlined some administrative tasks, they've also sparked concerns about job security and the need for up-skilling within the profession. Let's dissect the impact of this double-edged sword: The erosion of traditional roles: Repetitive tasks on autopilot: Scheduling, data entry, and basic document formatting are increasingly automated, potentially diminishing the demand for secretaries performing these tasks solely. Job displacement fears: Studies like McKinsey's 2021 report estimate that up to 800 million jobs globally could be automated by 2030, with administrative support roles featuring prominently. This fuels anxieties about job security among secretaries. It is not all doom and gloom: Shifting landscape, not job vanishing: While some tasks fade, new opportunities emerge. Automation frees up secretaries' time for higher-level activities like project management, data analysis, and strategic support. Up-skilling, not out-skilling: The key to navigating this shift lies in continuous skill development. Mastering technology, acquiring analytical skills, and honing digital literacy become crucial for staying relevant.

The urgent need to develop skills is crucial in today's world. Technological fluency, which involves being familiar with communication tools, project management software, and data analysis platforms, is becoming essential. Furthermore, the ability to understand and present data effectively (data savvy) is a valuable asset in the information age (Afolabi, 2018). Policy-level interventions play a role, as governments can promote digital literacy programs and support retraining initiatives.

## **Secretarial Profession and Digital Age**

The digital age has orchestrated a dynamic dance between the secretarial profession and technology, demanding continuous adaptation and skillset evolution. While the core values of organisation, communication, and administrative support remain the foundation of this profession, the tools and methods employed have undergone a dramatic transformation (Abubakari, Inusah, & Abdulai, 2023).

Traditional skills remain the bedrock, this implies that secretaries continue to act as communication hubs, facilitating seamless information flow within and outside the organisation. However, the digital age demands fluency in a wider communication repertoire, encompassing email, video conferencing, instant messaging, and social media, alongside strong written and verbal communication skills, (ECLAC, 2021). It also denotes that effective organisation remains paramount for managing schedules, deadlines, and the ever-growing influx of information. However, navigating the digital landscape necessitates proficiency in utilizing digital tools for scheduling, document management, project organisation, and cloud-based collaboration platforms.

On the other hand, new skills emerge as the digital orchestra plays on, (McGI, 2021). Meaning that Administrative professionals now require expertise in a diverse range of software programs for tasks like word processing, communication, scheduling, project management, and data analysis. Proficiency in cloud-based tools for document sharing and real-time collaboration is also crucial for seamless teamwork in geographically dispersed teams. The emergence of digitalization opens way for data management artistry. The vast symphony of digital information generated necessitates strong data management skills to organize, categorize, and retrieve information efficiently (World Bank, 2022). This includes mastering email databases, electronic documents, digital filing systems, and potentially, knowledge management systems. Cyber-security awareness: As the digital world becomes our primary stage, understanding cyber-security practices is essential to protect sensitive information, maintain data integrity, and safeguard against cyber threats.

Digitalization brings about many roles such as virtual assistants, social media maestros, and content creation collaborators, the rise of remote work has led to the increased demand for virtual assistants who provide administrative support remotely, utilizing digital tools for communication, collaboration, project management, and potentially even virtual event coordination. Some

secretaries are taking on the responsibility of managing their organisation's social media presence, requiring them to be familiar with social media platforms, content creation strategies, and community engagement tactics. The ability to create professional presentations, reports, and other content using various software tools like graphic design software and content management systems is becoming increasingly valuable for administrative professionals, allowing them to contribute more comprehensively to various projects.

### **Challenges of Digital Age to Secretarial Profession**

The digital age brings a complex landscape for secretarial professionals. While new technology offers increased efficiency and innovative tools, it also presents hurdles that necessitate adaptation and ongoing skill development which includes automation and job displacement, technological fluency, data management and interpretation, evolving workflows and collaboration. Certain routine tasks traditionally performed by secretaries, such as scheduling appointments or managing travel arrangements, are increasingly automated. This raises concerns about job displacement, necessitating up-skilling and adaptability to remain relevant in the evolving workplace. For example, the implementation of online appointment booking systems or AI-powered travel assistants can potentially reduce the need for human intervention in these tasks. (International Labour Organisation, 2021). Mastering new software applications and platforms like project management tools, communication apps, and data analysis platforms becomes crucial. These technologies can be complex and require continuous learning and adaptation to stay current. For instance, transitioning from traditional paper calendars to online scheduling platforms like calendly or doodle necessitates learning new software functionalities. Secretaries may need to handle and interpret increasingly complex data from various sources, demanding data literacy skills to analyse, visualize, and present information effectively. Generating reports from data-driven dashboards or presenting information gleaned from customer relationship management (CRM) software necessitates an understanding of data analysis methods. Adapting to new communication methods and collaborative tools like instant messaging platforms, online document sharing, and video conferencing disrupts traditional workflows. Secretaries need to learn new protocols for accessing and sharing files securely in cloud-based document management systems.

### **Prospects of Digital Age to Secretarial Profession**

While the digital age presents challenges for secretarial professionals, it also unlocks exciting prospects for growth and advancement. Enhanced efficiency and productivity are within reach,

thanks to technology like project management tools and online scheduling platforms. These tools streamline tasks, freeing up valuable time for secretaries to engage in more strategic work, potentially involving project coordination or assisting with data analysis. Mastering new technologies like data analysis software not only expands a secretary's skillset but also opens doors to new career paths such as administrative data analyst or data specialist (International Association of Administrative Professionals, 2023). This demonstrates a proactive attitude and makes secretaries even more valuable assets in organisations seeking tech-savvy professionals (International Association of Administrative Professionals, 2023). Furthermore, the digital age fosters global collaboration through video conferencing and online document sharing, enabling secretaries to work with geographically diverse teams. This can lead to exciting remote work opportunities, expanding career options and fostering new connections. Perhaps the most significant prospect lies in the evolving role of secretaries (PWC, 2023). As they shift from routine tasks to managing complex data and technology, their responsibilities increase, leading to a more strategic and impactful role within the organisation. This allows them to contribute meaningfully to decision-making and support strategic initiatives.

## Conclusion

In conclusion, the digital age has presented both challenges and opportunities for the secretarial profession. While traditional skills remain relevant, continuous adaptation and embracing new technologies are crucial for administrative professionals to thrive in this new era (Harvard Business Review, 2023). By mastering the evolving skillset, secretaries can continue to play a vital role in the symphony of organisational success, providing valuable support and contributing to the smooth functioning of their organisations (World Bank Forum, 2020).

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## Office Administration, Digital Literacy and Information Environment in the Digital Era

<sup>1</sup>HASSAN, Olayinka Isiaka; <sup>2</sup>EL-KALASH, Kamaluddeen Isa;  
<sup>3</sup>SAID, Toyin Akeem; & <sup>4</sup>DIKKO, Julius

<sup>1</sup>Business Education Department, Federal College of Education, Kontagora, Niger State

<sup>2,3,4</sup>College Library, Federal College of Education, Kontagora, Niger State

<sup>1</sup>hassanyinka22@gmail.com, +2348026518354;

<sup>2</sup>maimartabachief@gmail.com, +2348033583111

<sup>3</sup>aibuowo@yahoo.com, +2348065390702

### Abstract

*Digital transformation does not suddenly happen in an organisation, it is the process that leads to total change in the workplace, and it requires performance of some activities that will facilitates investment in technology for data processing, data transfer, staff training and development, this requires number of tasks to be performed by all employees for a better competitive position. Information Communication Technology (ICT) in modern business transaction and daily interaction has become the bedrock of achieving organisational objectives. Communication, whatever purpose it is intended for is geared towards accomplishing an end. This ends cannot be effectively achieved without proper and efficient utilization of ICT devices. Managerial problems have evolved and the deficiency in communication process between managers and subordinates which results to reduction in output. Upon this background, the paper analyses the meaning of office and office administration, technological development in the office and its effects on productivity. Attention is adequately given to the definition of digital literacy, information systems and information environment in the organisation. Finally, efforts were made to highlight the essentials skill for office administration to effect management plans and its implementation. The paper recommends that digital literacy should be made one of the requirements for initial employment into an organisation, and conclusion is that the management should embark on investment to train and retrain their staff on how best to make use of this modern technology.*

**Keywords:** Administration, skill, Digital literacy, Information environment, Information systems,

### Introduction

Every organisation, either public or private is adopting digital technology which gives employees access to huge volume of information and has increase the need to acquire new set of skills to access, manage, investigate and evaluate information. Office administration and management is changing as a result of computerization, automation and mechanization in the information service delivery; in order to be a functional staff after employment, there is need to acquire a new set of digital skills. Okute, Enang and Etoma (2020) reveals that organisations are embarking on huge investment to digitize their services which is becoming a threat to customers who are becoming digitally excluded, the threat is to every individual who do not possess the necessary skills to



handle the digitisation of the service of the domain, thus Okute et al. (2020) concludes that digital competencies and ability to make use of digital media in an autonomous and strategic ways are important to ensure full participation in the digital work environment.

The key element of survival in digital era is the development of digital skills and competencies in order to enhance employee's ability to fully participator in digitalised society. Hence, the digital skills refer to technical aspects of competencies and knowledge, according to Van Dijk and Van Deursen (2014) in Okute et a. (2020) distinguished between various types of practices oriented skills as follows:

1. Operational skills which refers to operational manipulations of computer internet software and hardware.
2. Formal skills understanding the use of formal characteristics of computer and internet such as hyperlink or move between internet pages.
3. Information skills the skills require to search, select, handle and evaluate internet and digital media contents.
4. Capacity to use internet to one's advantage.
5. Communication skills required to participate in online networks.
6. Contents creation skills needed to create and distribute contents on the internet.

The digital transformation has raised a fundamental challenge to the society, hence there is need for individual to be equipped with the right skills to make use of the new possibilities in their workplace because the labour market is automating and there is high demand for digital skilled labour. Digital technology is changing the way we work and interact, and as well creating new opportunities with challenges. Modern organisations whether production or service; cannot make it without modern technology, such as the internet and multimedia. These two phenomena have become a common part of our lives and in significant way they also affect the workplace administration and management processes; the priority of office manager is not only to monitor developments in these areas, keep pace with constant change and rapid development of technology and skills, but also to apply this modern knowledge in all types of information systems available in the organisation.

The development of digital era technology according to Dana and Ivan (2012) can be seen from several aspects of technology-assisted organisational activities; with this technology, duties and responsibilities are made easier for employees to perform. Thus, this digital age technology has

improved staff performance and put the organisation at a favorable competitive advantage. The digital era technology is making many changes that occur in the business and government organisations continue to give birth to new innovations. However, the objective of this paper is to examine concept of office technology, office administration, digital literacy, information systems, and information environment.

### **Meaning of an office**

Traditionally, an office is understood as a place where clerical work is performed and where all kinds of (paper works) letters, correspondence, files, records etc, is carried out, maintained and dealt with. Office is a central place where all sort of clerical work is done to coordinate and control the affairs of the organisation, hence, Chopra and Gauri (2015) described the office as the administrative centre of a business, and the purpose of an office is the provision of a service of communication and record. It is instructive to note that traditional concept and definition of office emphasises paperwork as the main and perhaps the only function of an office.

However, the modern approach to study of an office conceived of office as a function rather than a particular place which can plan, organise, coordinate, standardize and supervise paperwork undertaken regardless of the place and person involved. But if office is considered as a place only, the paperwork carried out outside the boundaries of that place called office would not be under its control, hence the office manager is responsible for the paperwork that falls within his own department. For instance, minutes of board meetings, financial records, sales and purchase records are all integral parts of the operation of a business and must be planned, organised and controlled to ensure an effective administration of the business enterprise. Leffingwell and Robinson in Chopra and Gauri (2015) argued and submitted that the salient feature of the office is the work itself and not who does it or where it is done, while Chopra and Gauri (2015) concludes that an office refers to the functions performed by a certain set of persons rather than the place, where clerical work is done and acts of collecting, processing, storing and distributing information comprises the functions of an office.

### **Office administration and administrative skills in information environment**

Generally, administration refers to process of running an organisation, office or business which includes creating rules and regulations, making decisions, managing operations and organizing staff to direct activities towards achieving common goals. Administration also refers to a group of people who are charged with the responsibilities of creating and enforcing rules and regulations

or those people in leadership positions for the purpose of completing organisational tasks (Arua and Udoh, 2019, Quadri and Bassey, 2021).

Quadri and Bassey, (2021), opines that administration is a cooperative effort that is directed towards the organisation and management of human and materials resources to achieve objectives, hence managing affairs of an office, daily supervision and coordination of services and operations is known as office administration. Furthermore, Akerele and Popoola (2021) corroborated that administering services, duties, affairs and directives means systematic arrangement of human and material resources to fulfill organisational objectives which includes organizing programmes, activities, events and carefully employing or engaging these resources systematically within defined guidelines.

Office administration means ensuring that decisions formulated are well communicated, engaged and respected, the manager with his office authority will ensure that standards are adhered to in the organisation. The administrative management process of every office involves policy making, budgeting, controlling, training, publicity, evaluation and rewarding performance. There should be a distinct organogram that show who is responsible to who and also the schedule of duties, scheme of works and conditions of services are very important tools in the process of administration.

### **Essential skills for office administration in information environment**

An office manager requires basic skills to carry out their various operations in the enterprise they belong. They are as follows according to Mosley, Pietri and Mosley (2008).

1. A conceptual skill involves the ability to acquire, analyse and interpret information in a logical manner. All manager needs to understand the organisation and environments in which they operate, as well as the effects of changes in those environment on the organisation.
2. A human relation skill consists of abilities to understand other people and to interact effectively with them. These skills are most needed in performing the leading function because they involved communicating with, motivating, and leading, coaching, empowering and facilitating employees as well as relating to other people.
3. Administrative skills are the skills that permit manager to use their other skills effectively in performing the managerial functions. These skills include the ability to establish and follow policies and procedures and to process paperwork in an orderly manner.

4. Technical skills include understanding and being able to supervise effectively. The specific process, practices or techniques required to perform specific duties. Technical skills are more important for supervisors than for top managers, since supervisors are closer to the actual work performed by the employees, they must often feel or even show employees how to perform a job, as well as know when it is done properly.

### **Historical development of office technologies in the organisation**

Information systems and information technologies represent means to a successful business operation, innovation and growth. To leverage all these benefits Business-IT alignment initiative has to be established. These technologies have revealed positive impacts of digital innovation of business - information technology alignment on company performance. Chopra and Gauri (2015), outline the following technological developments that have led to evolution of the modern office:

1870	First commercial typewriter was introduced
1880	Alexander Graham Bell invented telephone
1920	Electric typewriter was introduced
1930	Important machines like duplicators, dictaphones, intercoms developed
1950	Calculators, computers, copying machines, addressographs, frankling, tabulating and accounting machines developed.
1961	Memory electronic typewriters launched
1964	Word processing equipment, cash registers etc.
1970	Introduction of digital networks, local area networks (LAN)
1980	Computerised telephone networks, picture phone etc.
1990	Personal computers, micro-processing equipment, electronic mail, fax machines, modems, pagers, cellular phones, internet systems etc.
2000	Internet banking, internet trading, BPO servicing, internet telephony, digitized office.
2008	Apple i-phones, voice mails, teleconferencing, handwriting and speech recognition software, broadband spectrum, LCD and plasma T Vs, 3D image, videoconferencing etc. black berry, google gphone, robotics etc.
2012	Voice/face/handwriting recognition, 3D printing, apple iphones 4s, 1TB hard disk.
2014	Blue ray disk, voice navigation, Wi-fi, wireless printers, cloud computing (google drive, dropbox, sky drive-microsoft), ipad, business analytics (for cash management, website management, employees' management, etc.) SaaS (software

as a service), LE, mobile banking, virtualization, android, ubuntu, internet of all things etc.

Digital Transformation does not suddenly happen; it is the process that leads to total change in the organisation, digital innovation requires the performance of some activities that will facilitates the actualization of a desired society. This transformation calls for practical investment in technology, staff training and development and retraining of employees, this requires number of tasks to be performed in order to attain a better level of development.

### **Digital Literacy in the Information Environment**

Literacy is the ability to read, write and speak, listen and use numeracy and technology at a level that enable an individual to express and understand ideas and opinion to achieve an objective and to participate in the community. Literacy is a collection of many skills that every office worker needs to be able to critically evaluate the reliability of diverse sources of information needed to achieve competitive advantage. Ekoko (2019) described that literacy has expanded to reflect on individual social life, helps to increase specialization and digital technologies, also it includes that one employee requires the comprehension, selection and use of multimodal codes and convection to interpret ideas, feelings and information. Thus a literate employee is able to understand and differentiate the relationship between ideas and information for personal empowerment in an organisation.

Digital literacy is individual ability to use information and communication technologies to find, evaluate, create and communicate information, requiring both cognitive and technical skills, using wide range of new technologies (Ekoko, 2019). Digital literacy is the employee capacity to use digital technology, communication devices or networks to locate, analyses, use and produce knowledge (information). Timothy (2017) opines that it is the ability to read, write and clarify media to relocate data and visuals through digital manipulations and to assess and implement new knowledge obtained from digital environment. According to Royal society (2012), Ekoko (2019) office digital literacy is the ability to use computer confidently, safely and effectively including use of office software such as word processors, emails and presentation software. The ability to create and edit images, audio, video and ability to use web browser and internet search engines; digital literacy equips individuals with skills to benefit and participate in the use of ICT tools.

## **Digital Competencies for Office Administration in the Information Environment**

1. Information ability to identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.
2. Communication in digital environment to share resources through online tools to link with others and collaborate through digital tools to interact with and to participate in communities and networks, cross cultural awareness.
3. Content creation to create and edit new content and integrate and re-elaborate previous knowledge and content to produce creative expressions, media outputs and programming to deal with and apply intellectual property rights and licenses.
4. Safety personal protection, data protective, digital identity protection, security measures, safe and sustainable use.
5. Problem solving to identify digital needs and resources to make informed decisions on most appropriate digital tools according to the purpose or needs to solve conceptual problems through digital means to creatively use technologies to solve technical problems to update oneself and others.

Digital literacy does not only require technological skills alone but also entails critical reflective, social and ethical practices to effectively and critically navigate, evaluate and create information using range of digital technologies strategically to find and evaluate information, connect and collaborate with others, produce and share original contents and use internet and technology tools to achieve academic, professional and personal goals (Grech, 2014, Ekoko, 2019).

## **Information Systems in the Environment (Organisation)**

Organisations as information environment constitute the aggregate of individual employees and systems that collect process and disseminate information. In the context of information science, Aina, (2007), Salawu (2019) posits that the concept of information environment of an organisation covers the organisational information needs, information seeking behaviours, access to information and sources of information used for meeting the information needs. The information professionals who are connected with information based activities in the information system which includes creation or generation, processing, organisation, storage, preservation, dissemination and facilitation of utilisation, manages operations and services in the information environment.

## **Types of Information Systems in an Organisation (Environment)**

An organisation is divided into operational, middle and upper levels for smooth and effective administration, Sadiku, Kpakiko and Tsagem (2019) submitted that the information needs of users at every level differs, hence there are different information systems that supports every level in an organisation known as

1. Transaction processing system (TPS) are the type of system that process business transactions of the organisation; this differs from one company to another, for example a flight reservation system of an airline company, such as booking for flight, flight cancellation etc., are all transactions as well as any query made to it is also a transaction. However, there are some transactions that are peculiar or common to all organisations, such as employee records and accounts etc. A transaction processing system represents the lowest level in every organisations use of information system, these data form the basis for all other information systems capabilities, the organisation with higher volume of transactions use TPS, which result in efficient operations, fast turnaround, answers to queries, reduction in inventory and staff saving etc.
2. Management information system (MIS) assists lower management level in problem solving activities, the results of these activities are used to process some transactions and information generation; it is a set of information processing system that handles queries as quickly as they arrive. One important element of management information system is a database. This database shall contain a non-redundant collection of interrelated data items that can be processed through application programmes and the results be made available to users, it is a system that converts data from internal and external sources into information and to communicate that information in an appropriate form to managers at all levels in all functions to enable them make timely and effective decisions for planning, directing and controlling activities.
3. Decision support system (DSS) assist higher management to make long term decisions or strategic decisions, this system in the organisation handles unstructured and semi structured decisions. An unstructured decision is such that if there are no clear procedures for making the decisions and if not, all the factors to be considered in decision can be readily identified in advance. A decision support system must be flexible enough to enable the user to produce customized reports by giving particular data and format specific to particular situation. A decision support system provides wide range of alternative information gathering and analytical tools with a major emphasis of flexibility and user



friendliness. This system allows a manager to consider a number of alternatives and evaluates them under a variety of potential conditions. The benefits of decision support system include.

4. The ability of computer to provide support, but neither to replace the managers' judgment nor provides pre-determined solutions.
5. It is best suited to semi structured problems where parts of the analysis can be computerized, but the decision makers' judgment and insight is needed to control the process.
6. It can also provide platform where effective problem solving is enhanced by interaction between the computer and the manager.
7. Executive information system (EIS) provides strategic information tailored to the needs of executives, top management and other decision makers in the organisation. EIS is highly interactive management information system for helping managers to identify and address problems and opportunities, this it does by collecting, analyzing and presenting data in a format that is easy to use by top executives and providing for them selected and summarized information.

### **Features of Executive Information System**

1. Provision of summary level data, captured from the organisations main system.
2. It is a facility that allows the executive to drill down from higher levels of information to lower level.
3. It has data manipulation facilities that can be compared with budget or previous year data.
4. It contains graphics and user friendly in term of data presentation.
5. Ability to present data in the same format, irrespective of changes in the volume of information required.
6. The Expert system is a form of decision support system that allows users to benefit from expert knowledge and information. It is a computer based applications that attempts to incorporates as much knowledge of a particular discipline in a database as is held by expert practitioners and theorists in the field. Expert system implements unstructured approaches to solving problems within the subject area by drawing inferences from a knowledge base acquire by human expertise.

## **Conclusion**

The use of virtual environment which is common to the organisation as information environment has a great potential; through it the workplace administration, communication, management and work flow is easier and quicker, Modern organisation depends on how to utilize various possibilities of modern technology to achieve and improve upon competitive position and therefore it is very important to train members of staff on how to best use modern technologies in the art of digital mentoring process and practices.

## **Recommendations**

Modern technology is an essential tool for the realization of management plans in the organisation, management decisions and execution will be fruitless if not properly communicated to parties who may be involved or use such information for desired results. Organisations consists of many systems which depends upon these information technologies to function, it is the cementing force of ideas between management and other stakeholders within and outside an organisation, arising from the above, the paper recommends that:

1. Digital literacy should be made one of the requirements for initial employment in the organisation.
2. The management should ensure there is constant power supply and also provide alternative sustainable power supply in order to take full benefit of new technology era.
3. Management should embark on consistent staff training, retraining and development in organisational informatics for the effective and efficient performance of their official responsibilities.
4. Adequate infrastructures should be provided to align business operations with information technology to enhance production activity.

The use of ICT has helped to develop office managers in their efforts to improve the organisation and the systems as well as transform the inputs of the establishment system into quality outputs. A digital driven office will ensure that the workforce of the establishment is competent and ranked among the best in the world. Today, Nigerians are able to research, plan, market and buy from other parts of the world as a result of the emergence and application of this digitisation. The top and lower managers in organisation are now able to interact freely and at minimal cost with counterparts in other parts of the world.

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## Importance of Computer Typing Proficiency in the Digital Era

<sup>1</sup>IBIRONKE, Oluwakemi E., <sup>2</sup>ADENEKAN, Tolulope E. & <sup>3</sup>AWODELE, Daniel F.

<sup>1</sup>University of Lincoln, United Kingdom, England.

<sup>2,3</sup>Department of Information Management, Lead City University Ibadan, Nigeria

### *Abstract*

*In this digital age, the ability to type effectively on a computer system is more important than ever, and this relates to productivity, efficiency, and communication in every organisation. This paper elaborates on the historical development of typing from typewriters to contemporary computer keyboards while highlighting its crucial importance in administration and information management fields as well as other professions. Through a critical review of the literature and a content analysis approach, the paper logically highlighted the key importance of computer typing proficiency for information management professionals in navigating the digital era. The paper also found support in the Competence Learning Model (CLM) and established that having strong typing proficiency is not important for effective administrative performance but also plays an important role in personal development, productivity, and success. In addition, it advocates that consistent practice, use of internet resources, and maintaining proper ergonomics are very vital and can improve the computer typing skills of individuals. Looking forward, the Fourth Industrial Revolution promises transformative developments and suggests a continued reliance on digital skills such as typing proficiency.*

**Keywords:** Computer Typing Proficiency, Digital Era, Office Administration.

### 1.0 Introduction

In today's digital world, having strong typing skills is essential and a key factor in enhancing operational efficiency, productivity, and communication. This shift towards digitalization has indeed highlighted the importance of computer typing skills in modern society (Deursen & Dijk, 2013). The capability to input text on a computer offers advantages and plays a crucial role in increasing productivity through quick and precise data entry (Waes et al., 2019). Computers in general may be considered a vital tool that many industries rely heavily on for communication, work, education, and entertainment. Computer typing proficiency has progressively taken a more noticeable place in text production and composition and has been considered the most important both in professional and personal contexts (Van Waes et al., 2021). Typing proficiency, therefore, is not a skill but a necessity for effective communication and productivity (DeFulio et al., 2011). Indeed, effective computer typing skills are essential for professionals in administrative roles to process substantial amounts of data, emails, reports, and other documentation quickly and accurately (Supiatni et al., 2023). Furthermore, in the office and information management field,

the ability to type proficiently may increase the speed and accuracy of data entry and ensure that information is processed efficiently. This shows the importance of acquiring a skill in computer typing, which is one of the foundational skills to be acquired at the technical level of education.

According to Barkaoui (2013), the importance of computer typing skills goes beyond basic office tasks, and as shown in existing research, learning is related to overall computer literacy, which is essential for both youth and older adults to effectively engage with technology (Boot et al., 2013). Furthermore, research has indicated that typing skills are linked to enhanced performance in different activities, including keyboard practice, where using words instead of mixed characters' aids in fluency (DeFulio et al., 2011). Studies have documented the impact and importance of typing proficiency on writing performance and development for undergraduate students. For instance, Van Waes et al. (2021), from their studies, agreed that researchers and writers with a higher level of keyboarding digitalization skills are more efficient as well as productive. Similarly, an investigation carried out on students in the lower grades shows that students who are trained in keyboarding speed typing courses are vastly better at producing quality stories than their peers who are not trained (Tate et al., 2019). This further indicates the positive impact of keyboarding proficiency on how students can produce quality writing.

The paper examines the importance of computer typing proficiency and highlights its increasing demand in various fields and industries. It is divided into six sections: the introduction, the historical aspects of computer typing, the importance of typing skills in the digital era, strategies for improving students' skills, taking a cue from the competency learning model, the conclusion, and the future trend of computer typing proficiency.

## **2.0 Historical Perspective of Computer Typing Proficiency**

The evolution of typing and its importance in the time before digital technology can be linked to the creation of the typewriter in the 19th century, which transformed written communication by allowing for quicker and more effective document production (Kroemer, 2001). Typewriters were the main instrument for creating written materials for years, underscoring the significance of typing abilities in different fields and businesses. The introduction of computers in the mid-20th century led to the shift from traditional typewriters to computer keyboards, signifying a major change in typing technology (Kroemer, 2001). Computer keyboards provide additional features and capabilities compared to typewriters, resulting in improved efficiency and productivity for typing assignments. Research by Marcus et al. (2002) shows a link between typing skills and

musculoskeletal health, making typing abilities more crucial. Studies have indicated that musculoskeletal discomfort while using a computer can be affected by the height of the keyboard and the position of the wrist (Kotani et al., 2007).

More focus is to maintain clean keyboards due to research finding bacterial presence on computer keyboards and investigating the efficiency of disinfectants in minimizing this presence (Rutala et al., 2006; Hong et al., 2012). Moreover, the development of technology has resulted in the emergence of novel typing interfaces like virtual keyboards and distinct keyboard layouts, such as entirely virtual keyboards on touchscreens, underscoring the ongoing evolution of typing techniques (Kim et al., 2021; Wrysten & Hallbeck, 2009). Askvik et al. (2020) assert that there is an ongoing discussion in the field of education focusing on whether cursive handwriting offers greater cognitive benefits compared to typewriting, based on research indicating the potential advantages of cursive. Nevertheless, the increasing use of computer keyboards in current educational environments highlights the growing importance of digital typing skills. In addition, research has focused on how keyboard design affects user experience and ergonomics, examining the influence of factors such as keyboard distance, tilt, and support on upper limb posture and muscle activity during typing (Cook et al., 2004; Gholami et al., 2022; Nash et al., 2021).

### **3.0 Importance of Computer Typing Proficiency in the Digital Era**

In today's digital world, having strong typing skills is essential factor in enhancing operational efficiency, productivity, and communication. The capability to input text on a computer offers some advantages and plays a crucial role in increasing productivity through quick and precise data entry (Waes et al., 2019). Speed and precision are crucial in urgent tasks, particularly in professions requiring immediate responses. The rise of digital communication and information management has made computer typing skills more essential in today's digital world. The move to a digitalized society affects typing abilities since people must communicate and handle information effectively in digital forms (Lewis, 2013). Efficient typing skills are essential in adapting to the digital era, where communication frequently takes place on digital platforms (Prasetyo et al., 2023). Typing proficiency increases productivity by enabling individuals to complete tasks faster, thereby increasing overall performance (Weerdenburg et al., 2018). Moreover, the increasing use of digital processes emphasises the significance of digital literacy and proficiency in utilizing technology, which is a valuable tool for navigating the 21<sup>st</sup> century.



Office technology and management departments in various institutions of learning in Nigeria have been saddled with the responsibility of training students on how to acquire the required skills in computer typing. Students after graduation are expected to further develop these skills into office efficiency. According to Adenekan & Jimoh (2021), office managers' performance has been linked to their roles in technological innovations, and as such, this cuts across the level of users' competence. Good typing skills can increase productivity when managing information and administrative tasks. Individuals with good typing skills can enter data accurately and quickly, resulting in more efficient handling of information. In addition, in administrative roles, typing skills are essential for the timely creation of documents, emails, and reports, contributing to effective communication and task completion. Lack of this computer typing skill may therefore be seen as incompetence on the part of these managers. Brandau et al. (2021), in their study, argued that the emergence of digital technologies has led to the creation of digital citizenship initiatives, which aim to instruct individuals on proper online conduct.

Typing skills are highly valued in a variety of fields and occupations, including administration, customer service, data entry, and content creation (Weerdenburg et al., 2018). To effectively manage documents, emails, and other correspondence, administrative tasks require the ability to type quickly and accurately. Typing skills are crucial for jobs involving data entry since these jobs require accuracy when entering vast volumes of data. Content creation, which includes the creation of articles, reports, and other written materials, relies heavily on skillful typing skills to produce quality work within established timelines. Additionally, typing abilities prove to be a catalyst for improved communication in various roles. Wallman et al. (2013) assert that today's fast-paced world requires clear and concise communication and that the ability to type quickly and accurately facilitates the effective transfer of information.

Typing skills help professionals convey information clearly and promptly in fields like customer service and journalism where prompt responses are essential. Additionally, in collaborative work environments, efficient typing proficiency proves invaluable for real-time communication during virtual meetings or collaborative projects (Wallman et al., 2013). Furthermore, in customer service roles, the ability to type quickly and accurately during live chats or email exchanges proves crucial to providing fast and effective customer support (Weerdenburg et al., 2018). Accurate and timely documentation of patient records, prescriptions, and medical reports is also essential in healthcare and requires typing skills from healthcare professionals (Kuhn et al., 2015). Similarly, lawyers and paralegals in the legal field rely on efficient typing when composing legal documents, while



court reporters rely on the ability to transcribe spoken words (Yelin & Samborn, 2022) accurately and quickly. Strong typing skills are also required for administrative tasks in a range of industries, including data entry, report writing, and correspondence (Baghdad, 2012). Computer typing proficiency is now essential in the digital age to help people with a variety of life tasks. For some people, learning to type presents familiar challenges, such as issues with digital literacy and access to technology (Dobransky & Hargittai, 2016). Research has shown that digital literacy is essential for individuals to effectively engage in online activities and use digital tools (Quialheiro et al., 2023). However, a lack of access to technology can hinder individuals from improving their typing skills, thereby hindering their overall digital skills (Kumari, 2022). Despite this challenge, there are significant opportunities to improve typing skills through technology and management strategies. Typing skills are also important to advance digital inclusion.

According to the concept of digital inclusivity (Tsatsou, 2019), everyone should have equal access to and the ability to master digital technologies. Because they enable people to interact online, access information, and communicate effectively, typing skills are an essential part of digital inclusivity (Adam & Alhassan, 2021). According to research, access to and use of ICTs can aid in closing the digital divide, and funding that considers digital trends is essential to promoting digital inclusion (Adam & Alhassan, 2021). This further explains that people can contribute to creating a more inclusive digital society and becoming more involved in the digital world by honing their typing skills. The importance of typing proficiency cannot be overemphasised in the digital era, especially for information and administrative management professionals (Shortt, 2020). Practical examples and case studies illustrate the significant influence of typing proficiency in various contexts. Enos et al. (2003) emphasised the importance of informal learning and experiential knowledge in developing competencies and suggested that formal training alone may not equip individuals with the necessary skills to keep up with changes in the workplace. While establishing the importance of computer competency and skills to manage information using ICT and smart technologies, Amodu et al. (2023) argued that information managers are today being referred to as I-managers. This emphasises the practical application of typing proficiency acquired through practical experience rather than through formal training programs and the need for innovativeness for information professionals.

#### **4.0 Strategies for Improving Typing Proficiency**

In the era of digital technology, typing proficiency is essential as well as the adoption of technological learning strategies to improve typing skills. Research as shown that technology

plays a crucial role in improving typing skills by providing interactive platforms and tools for practice and improvement (Mhlanga & Moloi, 2020). With technology and strategic management measures, individuals can improve their typing skills and overall digital literacy. Using online typing guides and software can be beneficial. These tools provide exercises and lessons to systematically improve typing skills. Through regular practice and consistent typing, individuals can improve their speed and accuracy (Lai & Hong, 2014). Furthermore, according to Lai and Hong (2014), people can lower their risk of repetitive strain injuries by concentrating on good posture and hand placement when typing. Adenekan and Jimoh (2021) in their study explained that digital literacy is not only knowing how to use technology tools and resources, but also the skills and abilities required to use these tools and resources for general and to effectively use specific purposes. It simply refers to an individual's competence to use technology effectively for learning, work, and other forms of self-improvement in the current age of information technology. Typing skills are important for productivity and profitability, especially for secretaries and other administrative staff in public higher education institutions.

Systematic typing courses can also provide students with knowledge and skills to provide a solid foundation for improvement (Pinet et al., 2022). Examples are TypingClub, Keybr and Typing. This allows students learn hand position and muscle memory, essential to achieving the required speed and precision. Furthermore, following the exercise plan of 15 to 30 minutes per day is the second most principal factor in building these skills (Pinet et al., 2022). Furthermore, ergonomics in the workplace is just as important. Precise chair height, keyboard positioning, and proper monitor orientation alleviate body discomfort and contribute to a comfortable typing experience (Chandwani et al., 2019). By learning finger typing using each finger in the most efficient way, you can improve your typing speed and accuracy. Then, using typing software along with quick games like Nitro Type and 10FastFingers makes it fun and competitive, requiring you to practice all the time (Chandwani et al., 2019). To improve typing skills, training programs in educational institutions are essential. Office administration and information management can implement training programs and workshops that focus on improving typing skills, thus providing individuals with the opportunity to further develop and refine their skills (Quialheiro et al., 2023). Teachers can teach students the basics of typing by incorporating typing courses into their curricula. Additionally, institutions can provide access to typing software and resources to facilitate practice and skill development. Institutions can better prepare their students for the demands of the digital age by integrating typing skills into the curriculum. Integrating typing proficiency into information and administrative management is critical to efficient operations.

#### **4.1 Competence Learning Model**

The Competency Learning Model (CCLM) is rooted in the need for institutions to possess knowledge, skills, and abilities (KSA) to survive and thrive in a changing environment (Denis, n.d.). The competency learning model is referred to as the “Four Stages of Learning Theory.” It represents a structured approach to understanding how individuals acquire and improve competencies (Sluijsmans et al., 2006). This model includes four stages: unconscious incompetence, conscious incompetence, conscious competence, and unconscious competence. The individual is initially not aware of his or her lack of competence in a particular area (unconscious incompetence). As they progress, they become aware of their deficits and actively participate in learning (conscious incompetence). Through continuous practice, the individual reaches a stage where they can perform the skill competently with conscious effort (conscious competence). Mastery is achieved, and the skill is performed automatically and effortlessly (unconscious competence).

Examining computer typing skills in the digital age through the lens of the Four Stages of Learning Theory can provide valuable insight into the development and improvement of typing skills (Sluijsmans et al., 2006). Some people are initially unaware of their lack of these skills (unconscious incompetence). When they realize their limitations, they embark on a journey of learning and practicing typing (conscious incompetence), and through deliberate practice and training, such individuals may reach a stage where they can type competently while being aware of their actions (conscious competence). Over time, with consistent practice and experience, individuals reach a level of typing competence where it becomes second nature and requires minimal effort as well as attention (unconscious competence). While leveraging the insights of the Competence Learning Model, educators and learners can customize teaching approaches and training programs to effectively improve computer typing skills in the digital age. By understanding where the individual is in their learning process, targeted interventions can be designed to facilitate the development of skills, with mastery of computer typing being a crucial competency for meeting the challenges of the digital age (Sluijsmans et al., 2006).

#### **5.0 Conclusion**

In conclusion, it should be noted that being able to type well on a computer is essential in the 21st century. Productivity, communication, and overall operational efficiency are all influenced by the ability to type quickly on a computer, which is becoming increasingly important in the digital world. The paper discussed the historical background of typewriters, the modern dominance of

computer keyboards, and the importance of typing skills in a range of professional areas such as administration, data entry, content creation, and customer service, while addressing issues such as digital literacy and access to technology to provide opportunities to enhance typing skills through technology-driven solutions that can ensure a more inclusive and digitally literate society. In addition, as individuals attempt to navigate the complexities of the digital era, strategies to improve typing skills like regular practice, online instruction, and education play a role in developing skills with an emphasis on proper hand positioning and posture to alleviate repetitive strain injuries. In this evolving technological landscape, developing typing proficiency remains paramount for individuals to not only adapt but thrive in a world characterized by constant innovation and technological advancement.

## **6.0 Future Trend**

The future of computer literacy is poised for significant developments as modern technologies advance. As highlighted in Shortt (2020), the rapid transition to digital platforms requires the integration of innovative systems tailored to the needs of learners, such as functional expression learning systems. The Fourth Industrial Revolution (4IR) ushers in a new era characterized by digital, physical, and biological advances (Saari et al., 2021), indicating a growing reliance on digital skills such as typing skills. This is consistent with the idea that positive technologies are increasingly being used to enhance firsthand experiences through technology (Riva et al., 2012). The implications of these future developments for computer literacy skills are far-reaching. As highlighted by Lin & Warschauer (2015), online foreign language teaching has shown promising results in improving language skills, suggesting that similar approaches could be applied to typing skills training. Furthermore, the study by Zhang and Graham (2020) emphasises the importance of listening skills for vocabulary acquisition and suggests an avenue for integrating listening exercises to improve typing skills. Innovative technologies such as mHealth programs (Treacy-Abarca et al., 2022) and social support interventions (Burner et al., 2019) are also indicative of the growing trend of using technology for health-related purposes. This trend highlights the potential for integrating similar technological interventions to enhance typing proficiency, through game-based typing exercises or interactive typing platforms.

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## **Information Management and Secretaries' Job Performance in State-Owned Universities in Ogun State**

**IKUENOMORE, Olubusayo Mosunmola**

Department of Information Management,  
Faculty of Communication and Information Services,  
Lead City University, Ibadan, Oyo State  
ikuenomoreom@gmail.com; +2348051836414

### **Abstract**

*The study examined the role of information management on secretaries' job performance in digital era. Three research questions guided the study. A correlational research design was used. The population comprised 248 secretaries in state-owned universities namely Tai Solarin University of Education and Olabisi Onabanjo University, Ogun State respectively. The sample size was 153 using Taro Yamane's formula  $[n = N / 1 + N(0.05)^2]$ . The stratified sampling technique was used to select the participants from each of the universities. The instrument used to obtain data was questionnaire. The reliability test conducted showed Cronbach Alpha value of 0.93. The collected data were analysed using the descriptive statistics of mean and standard deviation for RQ1 and RQ2 while RQ3 was answered using PPMC Decisions was made at 0.05 Alpha level. The findings of the study revealed that better decision making, higher productivity, timely completion of workloads, better communication in office, customers satisfaction, cost reduction, data quality, promotion of decision support system, efficiency and service improvement and minimize risk work done in office were among the key components of secretaries' job performance in the digital era. It was concluded that there was relationship between the independent variable (information management) and the dependent variable (secretaries' job performance) in the order of ( $r = 0.442, P < .05$ ). The study recommended that University secretaries should be sent for training programmes on how best information management could improve their performances. University management should equip secretaries' offices with provisions of modern ICT facilities to work with.*

**Keywords:** Digital Era, Information Management, Job Performance, Secretarial Administration

### **Introduction**

The role of secretaries in today organisation cannot be overemphasised as they played prominent functions of office management. Secretaries are the information managers and sometimes images of the organisation. Thus, a secretary is a professional who provides behind-the-scenes work for an office. Their tasks include organizing files, preparing documents, managing office supply inventory and scheduling appointments. A secretary is an administrative professional who plays an integral role in business and other organisational environments (Ademiluyi, 2018). Secretaries are typically the individuals who maintain and organize office tasks, implement procedures and carry out additional administrative duties, depending on the nature of their employment.

Ezeonwurie (2022) stated that secretaries as play a very vital role in an office. That is to say that a secretary is indispensable office personnel. A secretary, in the view of Ayelotan (2018), is expected to be computer literate and proficient in a number of word processing, spreadsheet and desktop publishing software including sending and receiving electronic mail (e-mail) and browsing the World Wide Web (www) (that is the internet). In the same vein, Boladele (2012), opined that the secretary's value to the organisation is often measured by response to these challenges. That She is no longer confined to taking notes, typing and making tea. Buttressing the above assertion, Nwaokwa and Okoli (2012) asserted that secretaries' job performances depend on their ability to operate electronic equipment-computer and this requires the acquisition of new skills, new knowledge and new techniques of managing information. Personally, secretary's job performance refers to the ability to use appropriately available office machinery/automation/tools to carry out the assigned duties or tasks in an efficient manner in line with the employer's expectations. Secretary's job performance is the extent to which an activity fulfils its intended purpose or function.

Ayelotan (2018) defined job performance as a measure of the match between stated goals and achievements, which mean doing the right thing. It is a known fact that employees are the key elements of any organisation, and secretaries are integral part (Buseni, 2013). Job performance also refers to the output which a secretary has contributed to the goal and purpose of an organisation through work behaviour and engagements which the organisation considers as either productive or otherwise (Adenekan & Jimoh, 2021). It shows whether a secretary performs a job well and remains a key measure for outcomes and success of an organisation over a specific period of time. Secretaries' job performance revealed the efficiency and productivity levels that could facilitate organisational goal achievement (Leonard, 2019) and may not be possible if performance is not up to expectation and satisfaction (Anitha, 2019). Secretaries' job performance implied the outcomes of the actions of secretary or employee in terms of expertise and skills related to expectation. In a university setting, secretaries' job performance reflects the accumulated result of the abilities, proficiency, competence and efforts of individual secretary towards enhanced service delivery, increased productivity and achievement of set goals (Dahkoul, 2018). While job performance is beneficial to employers through task accomplishment and customers' satisfaction, secretaries who perform well are also recognized, promoted, have better career opportunities and skill mastery (May, 2020). To some, secretaries' job performance is associated with many indices but the common or usual measures covered efficiency, quality and quantity of work, adherence to organisational values, teamwork, technical know-how, communication, behavioural competences,

provision of reliable information management among others (Spacey, 2017; Vulpen, 2018; Ciner, 2019 and Namely, 2019).

The system of office information generation, acquisition, processing, storage, dissemination and even the business environment all over the world have witnessed tremendous changes in its traditional methods and practices thus making the secretarial profession to fall among office personnel who have come face-to-face with the challenges of the new technology (Ezeonwurie, 2017). For decades now, fast changes have taken place in all facet of human life including the office environment as a result of technology. Buttressing this fact, Okolocha and Baba (2017), opined that it is an indisputable fact that presently, there is a wide spread of technological advancement in ways and means of rendering office services. The function of the office remains the same but its responsibilities and expectations changes as a result of changes in technology. In the word of Adu (2014), the secretarial profession in the world are witnessing a lot of technical and practical changes on daily basis. This ever-changing technology has come with new roles and responsibilities for the secretary in the modern office called: 'Digital Work Place.'

The current researcher believed that information management is an emerging field that is concerned with the infrastructure used to collect, manage, preserve, store and deliver information. The guiding principles that allow information to be available to the right people at the right time. Also, information management covers the procedures and guidelines organisations adopt to manage and communicate information among different individuals, departments and stakeholders. Information management focuses on the level of control an organisation has over the information it produces. Nevertheless, information management is a necessary administrative exercise, the purpose of which is the realization of the desired goals of the enterprise (Bagere & Edosa, 2004). Thus, information management could be for any of the following reasons: the need to ensure security needs of staff, public interest, and the need of staff's motivation. It is clear then that the need to manage information in the public university from the serious consequences that may result from either outright absence of management or inadequate management. It should be noted that information is like an egg, which when broken can never be restored to its original form. Any attempt to repackage information that has been disseminated would only move the communication process forward from one stage to another (Bagere & Edosa, 2004).

Information management contain information needed for planning, decision making, and control in any organisation such as University (Bakare, Abioye & Issa, 2016). They defined information

management as the application of systematic and scientific controls to recorded information required in the operation of an organisation's business. Adu (2014) saw information management as the field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including the processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records. It states that information management includes activities such as: setting policies and standards; assigning responsibilities and authorities; establishing and promulgating procedures and guidelines; providing a range of services relating to the management and use of records; designing, implementing and administering specialized systems for managing information; and integrating information management into business systems and processes. Similarly, May (2020) saw information management as the systematic control placed over the life cycle of recorded information from creation to its ultimate disposition or permanent storage. The life cycle of an information includes its conception, creation, distribution, usage, maintenance, storage, disposition, and the archival preservation stage. He also opined that information management can play an important role in charting the course of policy and determining program priorities for secretaries' job performance. It can also introduce a sense of unity of purpose into the whole administration. Thus, it seeks to create information necessary for the efficient and successful running of an organisation; to produce the information when they are needed; to conserve records relevant to the continued operation of the organisation; and to create only those records which are necessary (May, 2020).

This paper is guided by Goal-setting theory propounded by Edwin Locke (1968) in Bushiri (2014). This theory suggests that the individual goals established by an employee play an important role in motivating him/her for job performance. Skills required include the ability to engage employees in mutual goal setting, clarify role expectations and provide regular performance feedback. Time and energy will also need to be given to providing relevant performance incentives, managing processes, providing adequate resources and workplace training. It also advice that in order to drive the organisation to peak performance, managers and supervisors must put out front the human face of their organisation. Principle here is the human-to-human interaction through providing individualized support and encouragement to each and every employee (Bushiri, 2014). Employee performance is a major multidimensional construct aimed to achieve results and has a strong link with planned goals of an organisation (Abbas & Yaqoob, 2009). Performance is the key multi character factor intended to attain outcomes which has a major connection with planned objectives of the organisation. The implication of this theory to the current one was that to

achieved and sustained secretaries job performance, they need motivation through the provision of required information management.

### **Statement of the Problem**

Secretaries are the engine room for information sharing and disposal in organisation through their job performance. Today secretaries mostly in public sector like university have been found less performing and their jobs have developed dramatically in the modern digital era, moving away from basic administrative assistance and toward more dynamic occupations that need skilled information management. Technological breakthroughs also pose challenges for secretaries, such as adapting to new software interfaces, managing information overload, and addressing cybersecurity concerns. Technological breakthroughs that have transformed the methods in which information is generated, stored, accessed, and used. Despite the potential benefits, the integration of digital technologies and information management systems creates both possibilities and problems for secretaries, affecting their job performance in a variety of ways. However, government through university authorities have taking steps toward addressing the issues. Despite that, the secretaries' job performance in public university still remained a concern to the management. This study is an attempt to role of information management on secretaries' job performance in the digital era.

### **Objectives of the Study**

The main objective of the study was to examine the role of information management on secretaries' job performance in digital era. Specifically, the study sought to:

1. identify the level of job performance of secretaries in the digital era
2. identify the level of information management of secretaries in the digital era
3. examine the relationship between information management and secretaries' job performance in the digital era.

### **Research Questions**

The following research questions guided this study:

1. What is the level of job performance of secretaries in the digital era?
2. What is the level of information management of secretaries in the digital era?
3. What is the relationship between information management and job performance of secretaries in the digital era?

## Methodology

A correlational research design was used for the study. The design is appropriate because it enable the researcher to establish the existing relationship between the independent variables and the dependent variable. The population of this study comprised 248 secretaries in state-owned universities in Ogun State, South-West. The following table 1 explained how the population was distributed:

**Table 1: Secretaries' in state-owned universities in Ogun State**

Universities	Population	%	Sample Size
Tai Solarin University of Education, Ogun State	61	24.6	38
Olabisi Onabanjo University, Ogun State	187	75.4	62
<b>Total</b>	<b>248</b>	<b>100</b>	<b>153</b>

Source: Establishment Offices of each Universities, 2024

The population was 248 and the sample size was 153 using Taro Yamane's formula  $n = \frac{N}{1 + N(0.05)^2}$ . The stratified sampling technique was used to select the participants from each of the universities. The instrument used to obtain data was questionnaire. The reliability test of the instrument was done using a test-retest method. In this case, copies of the instrument were administered twice on 10 secretaries from Lagos State University, Lagos State (LASU) that are not part of the sample size within a week interval. The collected data from the dual administration of the instruments were compared using Pearson moment reliability statistic. Their respective reliability estimates were reported as 0.91 and 0.93. The collected data were analysed using the descriptive statistics of mean and standard deviation to answer research question 1 while research question 2 was answered using PPMC Decisions which was made at 0.05 Alpha level.

## Results and Discussion

**Research Question 1:** What is the level of job performance of secretaries in digital era?

**Table 1: Descriptive statistics on the level of job performance of secretaries in the digital era**

Items	Mean	SD	Remarks
Technological proficiency	3.37	.793	Agreed
Productivity and efficiency	3.38	.981	Agreed
Facilitates timely completion of workloads	2.51	1.224	Agreed
Promotes better communication in office	2.93	1.060	Agreed
Enhance customers satisfaction	3.45	.687	Agreed
Reducing cost implication in office	3.60	.669	Agreed
Facilitates better data quality	3.50	.912	Agreed
Promotion of decision support system	3.29	.950	Agreed
Drive efficiency and service improvement	2.78	.972	Agreed
Minimize risk work done in office	3.09	.990	Agreed
Cluster Mean	3.19		

Source: Field Survey, 2024



Table 1 revealed that cluster mean was 3.19 and bench mark mean of 2.50. Since  $3.19 > 2.50$ , this implied that technological proficiency, higher productivity, timely completion of workloads, better communication in office, customers' satisfaction, cost reduction, data quality, promotion of decision support system, efficiency and service improvement and minimize risk work done in office were among the key components of secretaries' job performance in the digital era.

**Research Question 2:** What is the level of information management of secretaries in digital era?

**Table 2: Descriptive statistics on the level of information management of secretaries in the digital era**

Items	Mean	SD	Remarks
Ability to handle digital technologies and tools	2.73	1.65	Agreed
Ability to secure sensitive information	3.45	1.86	Agreed
Ability to prevent information leakages	3.09	1.76	Agreed
Ability to provide suitable information for concrete decisions	3.19	1.79	Agreed
Ability to generate reports and analyse trends	2.73	1.65	Agreed
Ability to access information anywhere in the world	3.60	1.79	Agreed
<b>Cluster Mean</b>	<b>3.13</b>		

Source: Field Survey, 2024

The descriptive statistics in Table 2 indicate that secretaries believe they are typically capable of managing different kinds of information in the digital era. However, the standard deviations show a substantial range in confidence levels across secretaries, suggesting that while the overall mood is favourable, individual experiences and capabilities may vary greatly. This may indicate the need for more focused training or support to ensure a more uniform competence level across the board. The cluster mean of 3.13 indicates that on average, secretaries are satisfied with their information management abilities in the digital age. This overall mean demonstrates a fairly favourable self-assessment across all items, despite the variety reflected by the standard deviations.

**Research Question 3:** What is the relationship between information management and secretaries' job performance in the digital era?

**Table 3: Relationship between information management and secretaries' job performance in the digital era**

Variables	Mean	SD	r-value	p-value
Information management	29.9267	2.86997		
Secretaries' job performance	18.7120	1.96169	.442	.000

Source: Field Survey, 2024

Table 2 revealed that there was relationship between the independent variable (information management) and the dependent variable (secretaries' job performance) in the order of ( $r = 0.442$ ,  $P < .05$ ). On this premise, the researcher concluded about 44.2% increases in secretaries' job performance could be attributed towards information management.

## **Discussion of Findings**

The findings of the study based on research question 1 revealed that better decision making, higher productivity, timely completion of workloads, better communication in office, customers satisfaction, cost reduction, data quality, promotion of decision support system, efficiency and service improvement and minimize risk work done in office were among the benefits of information management for secretaries' job performance in digital era. These findings corroborate with Ana, Florinda, Radu and Joao (2020) show that the success of digital government seems to be related with the quality of the organisations' knowledge management, complementing each other for significant improvements in the public sector.

The analysis from research question 2 indicated that there was relationship between the independent variable (information management) and the dependent variable (secretaries' job performance) in the order of ( $r = 0.442$ ,  $P < .05$ ). On this premise, the researcher concluded about 44.2% increases in secretaries' job performance could be attributed towards information management. These findings were in support to the Buseni (2013) who found that usage of computer, telecommunication and video techniques positively and significantly related to the productivity (performance) of public sector secretaries' in Bayelsa State, Nigeria.

## **Conclusion and Recommendations**

In conclusion, information management in the digital era has improved secretaries' work performance, making them more efficient, accurate, and critical to corporate success. The ongoing growth of digital technologies and processes creates possibilities and difficulties, needing a proactive approach to skill development and data security. As firms rely more on digital information management, secretaries' roles will become increasingly important, highlighting their worth as crucial contributors to modern corporate settings. Based on these findings and conclusion of the study, the following recommendations are provided:

1. University management should equip secretaries' office with provisions of modern ICT facilities to work with.
2. University secretaries should be sent for training programmes on how best information management could improve their performances.
3. Secretaries should endeavour to keep secrets of the university save and used everything in their capacity to protect the image of the system
4. Secretaries should develop and maintain strict cybersecurity policies suitable to prevent information leakages

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## **Information Security in the Digital Age: An Intrinsic View of Current Challenges and Way Forward for Advancement**

**INNOCENT, Glory Chimnechetam**

Department of Office Technology and Management,  
School of Management Sciences, Federal Polytechnic, Ekowe, Bayelsa State, Nigeria.  
Email: glorychimechetan@gmail.com, ORCID: <https://orcid.org/000-0003-3248-2246>

### **Abstract**

*In today's technologically interconnected world, information security has become important. This study provides an inherent view of the current issues in information security and recommends a path ahead for improvement in this crucial subject. The conversation focuses on the changing cyber threat scenario, growing data privacy issues, and the hazards posed by developing technology. Furthermore, it emphasises the inherent variables that influence information security, such as human behaviour, security by design principles, and risk management strategies. Addressing these inherent problems allows firms to strengthen their defenses against cyberattacks and secure sensitive data. The study also highlights collaborative efforts, constant innovation, and ethical concerns as critical components of the path forward. Finally, by recognizing the inherent nature of information security concerns and taking proactive actions, stakeholders may pave the way for a more secure digital future.*

**Keywords:** Digital Age, Information Security, Information Security Management, Security Studies

### **1. Introduction**

Information is becoming one of the most valuable assets of any organisation or state and is becoming increasingly guarded and valued. At the same time, this information is exposed to many threats, such as cyberattacks and breaches of data privacy. It is worth noting that these threats do not only affect large companies and state institutions, but also ordinary users who process and store their data online. This article aims to provide an overview of the current situation of information security and the challenges it faces. Various aspects of information security will be presented, such as cyber security, privacy protection and network security. The most important information security challenges affecting both states and private organisations will also be discussed. Furthermore, the article will focus on the prospects for the development of information security in the digital age. It is important to emphasise that information security is a global issue and affects every country in the world. According to a report published by Accenture and Ponemon Institute, the cost of information security breaches in 2020 averaged \$3.86 million per organisation (Accenture, 2020). In addition, there were more than 300 billion cyberattacks worldwide in 2020. These figures show how important it is to take care of information security

and how real the threats posed by cyberattacks. The number of cyberattacks has increased over the past few years, which in turn has raised people's awareness of the need for information security. In 2020, companies around the world were forced to adapt to the COVID-19 pandemic and conduct their operations online, which further increased the risk of cyber-attacks. Many organisations have been forced to rapidly digitize their business processes, which has increased the threat of hacker attacks.

In addition, with the development of technology, new threats are emerging, such as attacks on artificial intelligence, mobile applications, IoT systems and many others. In order to deal with these threats, companies and institutions must take steps to increase their levels of information security.

## **2. Literature Review**

Information security is a comprehensive system of measures designed to protect information from unauthorised access, disclosure, damage, destruction, modification or loss. In today's digital age, where information is transmitted via the Internet, information security has become a key element for both organisations and individuals (ISO 2013). The authors of the definitions of information security and cyber security are not clear-cut, as both terms have their roots in a number of scientific fields, including computer science, management and national security. One of the first authors to define the term cyber security was Dorothy Denning (Denning, 1999), an American computer security specialist.

The definition of information security refers to the protection of information from unauthorised access, disclosure, damage, destruction, modification or loss. Cyber security, on the other hand, is more focused on the protection of digital information and related systems from threats arising from computer networks. With the development of information technology, these terms have come to be used interchangeably. However, there are some subtle differences between the two. Cyber security refers to efforts to protect networks and related systems from digital threats such as hackers, viruses, DDoS attacks, etc. Information security, on the other hand, refers to the protection of all types of information, not just that stored in IT systems. The dangers of information insecurity are serious and can lead to severe consequences such as invasion of privacy, identity theft, loss of commercial and confidential information and even reputational damage. As research shows, the costs associated with cyber-attacks are increasing, and their scale and complexity continue to grow.



According to IBM Security's 2020 Cost of a Data Breach Report, the cost of an average data breach was \$3.86 million in 2020, an increase of 1.5 per cent over the previous year (IBM Security, 2020). Also, Microsoft 2020 Digital Defense Report states that cybercrime is one of the biggest threats to businesses and individuals, and that the cost of losses associated with cyber-attacks was more than \$1.5trillion in 2020 (Microsoft, Digital Defense Report, 2020). In Europe, the European Network and Information Security Agency (ENISA) publishes an annual report on network and information threats. In its Threat Landscape Report 2021, ENISA states that there was an increase in malware, phishing and ransomware attacks in 2020, highlighting the need for action to improve information security.

### **3. Key Components of Information Security**

Information security is crucial to the functioning of modern societies. Protecting information from unauthorized access, theft or destruction is one of the most important tasks of businesses, government organisations and other institutions. In this article, a few of the components to discuss are environmental, legal, organisational, physical, and technical.

1. **Environmental Aspect:** It refers to protecting information from environmental threats such as fires, floods, and power outages. For example, an organisation may use fire suppression systems and backup power generators to ensure that critical systems remain operational in the event of a disaster.
2. **Legal Aspects:** Information security is also regulated by law. Many countries have data protection laws and require companies and government institutions to comply with certain information security standards. In Poland, such regulations include the Personal Data Protection Act and the GDPR (Regulation on the Protection of Personal Data). In the US, similar legislation is regulated by the Computer Fraud and Abuse Act (CFAA), among others (Jankowski, 2018).
3. **Organisational Aspect:** This includes the policies, procedures, and culture within an organisation that help to protect its information. For example, an organisation may have a clear information security policy that outlines how employees should handle and protect sensitive data. They may also have regular security training for employees to ensure they are aware of best practices for protecting information. Information security also requires proper work organisation in companies and institutions. A properly organised IT infrastructure and proper security procedures help to ensure information protection (Stachowiak, 2019). Data access procedures should be in place, backups secured, and data minimisation policies implemented to reduce the risk of information leakage. By



addressing all of these aspects of information security, organisations can create a comprehensive and robust defense against threats to their sensitive information.

4. **Physical Aspect:** It covers the physical security measures put in place to protect information, such as locks on doors and cabinets, security cameras, and access control systems. For example, a company may restrict access to its data center to only authorized personnel and require employees to use key cards or biometric authentication to enter secure areas.
5. **Technical Aspect:** It involves the use of technology to protect information, such as encryption, firewalls, anti-virus, anti-spam and anti-phishing software, and intrusion detection systems. For example, an organisation may use encryption to secure sensitive data as it is transmitted over a network, or use firewalls to monitor and control incoming and outgoing network traffic to prevent unauthorized access. Information security involves many technical aspects. Information systems, networks and databases must be adequately protected against cyberattacks. Today's attacks can range from viruses and worms to phishing, ransomware and DDoS (Distributed Denial of Service) attacks. Attackers use a variety of means, such as password phishing, zero-day attacks and even social engineering, to gain access to protected information (Bonner, 2020). It is also important to regularly update software and follow security best practices such as complex passwords and regular staff training.

### **Current Situation of Information Security Management**

Information security is currently one of the most important challenges for many institutions, businesses and organisations around the world. Attacks on IT systems can lead to the loss of sensitive information such as customer data, employees, passwords and other sensitive information. Recent years have seen many instances of attacks on information systems, which have sparked a wave of discussion about the need for increased information protection and security measures.

### **4. Intrinsic Factors that can Influence Information Security**

Intrinsic factors that can influence information security are those that are internal to an organisation and relate to the organisation itself. These factors can have a significant impact on the overall security posture of an organisation and its ability to protect sensitive information. Some intrinsic factors that can influence information security include:

1. **Access Controls:** The way in which access controls are managed within an organisation can also impact information security. Organisations that have strict access controls in place, such as multi-factor authentication and regular access reviews, are better able to prevent unauthorized access to sensitive information.
2. **Employee Training and Awareness:** The level of training and awareness among employees about security best practices can significantly impact information security. Organisations that invest in regular security training for employees and raise awareness about the importance of security are more likely to have a strong security posture.
3. **Organisational Culture:** The culture of an organisation plays a significant role in information security. If an organisation prioritizes security and has a strong culture of compliance and adherence to security policies, employees are more likely to take security seriously and follow best practices. Conversely, if an organisation has a lax approach to security, employees may be more likely to engage in risky behaviors that could compromise security.
4. **Risk Management:** How an organisation manages and addresses security risks can also influence information security. Organisations that conduct regular risk assessments, identify potential threats and vulnerabilities, and have a proactive approach to addressing security risks are more likely to have a strong security posture.
5. **Security Governance:** The overall structure and governance of security within an organisation can also have a significant impact on information security. Organisations that have a dedicated security team, clear reporting lines for security incidents, and regular security audits are better positioned to protect their information assets.
6. **Security Policies and Procedures:** The existence of comprehensive security policies and procedures within an organisation can greatly influence information security. Organisations that have well-defined policies and procedures in place for handling sensitive information, access controls, data encryption, and incident response are better equipped to protect their data from unauthorized access.

Intrinsic factors such as organisational culture, employee training, security policies, access controls, risk management, and security governance can all influence information security within an organisation. By addressing these factors and implementing best practices, organisations can better protect their sensitive information and reduce the risk of security breaches.

## **Strategies for Developing Information Security**

The increasing number of cyberattacks, which are becoming more and more advanced, as well as new threats related to the development of technology, require the continuous development of measures to ensure information security. It is worth considering what are the prospects for the development of information security, what are the most important directions of development and what is the role of the state and organisations in ensuring information security. The state and organisations play a key role in ensuring information security. In Poland, the Internal Security Agency (ABW) is responsible for coordinating activities related to information security, as well as for carrying out activities related to the protection of classified information (Swoboda, 2014). In addition, various government institutions and agencies monitor the information security situation and take measures to prevent threats.

Organisations also need to effectively secure their IT systems against cyber-attacks, which can lead to data theft, malware or damage to systems. To do so, they need to use advanced information security technologies and practices and conduct regular security audits. Developments in information technology are creating new opportunities, but also new threats to information security. With the development of the Internet of Things (IoT), artificial intelligence (AI) and blockchain, the number of potential attacks on information systems is increasing. One of the biggest challenges will be to ensure the security of systems managing large amounts of data, such as medical, financial or critical infrastructure-related data. However, developments in information technology are also creating new opportunities for ensuring information security. For example, artificial intelligence can help to detect and prevent and prevention of attacks, and blockchain in securing systems against unauthorised access. In addition, the development of the Internet of Things (IoT) and other technologies related to the industry 4.0 concept may allow better monitoring and management of IT systems in real time, which in turn will have a positive impact on information security (Pope, 2004).

Cybersecurity education and training is also an important direction for the development of information security. Knowledge of threats and how to avoid them should be widespread, both among individual users and among businesses and public institutions. Therefore, states and organisations should invest in training programmes and education campaigns to raise awareness of cyber threats and how to counter them (Sobers, 2022). States and organisations also have a key role to play in creating uniform information security standards that will apply internationally. Many countries are developing their own information security regulations, which leads to inconsistencies and hinders international cooperation in the event of attacks on information

systems (Varnois, 2022). One example of such cooperation is the European Network and Information Systems Directive (NIS), which aims to ensure a high level of security for information systems in European Union member states (Symantec, 2020). The development of information technology creates both new threats and opportunities for information security. States and organisations have a key role in ensuring security and should invest in education and training, the creation of uniform standards and the implementation of innovative technological solutions (Wright et al., 2023).

### **Examples of Attacks on Information Security Systems**

One of the largest attacks on information systems was on Equifax, which is one of the three major credit reporting bureaus in the United States. In 2017, hackers accessed the personal data of more than 147 million customers, including national insurance numbers, dates of birth, addresses and other information. The attack was one of the largest in history and caused serious financial and reputational damage to Equifax. Another example was the 2013 hacking attack on US company Target, which caused many companies to rethink their approach to security. As a result of the attack, hackers gained access to the data of more than 110 million customers, including credit card numbers and personal information. The attack caused losses of more than \$162 million.

### **5. Challenges for Information Security**

One of the biggest challenges to information security is the lack of a uniform information security policy. Each country, organisation or company has its own approach to information security management. These differences can be due to many factors, such as cultural, legislative, organisational or technological differences. An insufficiently harmonised approach to information security management leads to an information security vulnerability that can be exploited by an attacker. It is important for countries, organisations or companies to operate on the basis of harmonised information security standards (Kuhn, 2010).

Threats related to the development of technology pose another challenge to information security. As technology advances, attackers have more and more opportunities to launch cyberattacks. An example of such a threat is the developing technology of artificial intelligence, which allows the creation of tools to carry out attacks with even greater precision and efficiency (Pope, 2005). Additionally, the increasing number of network-connected devices, such as IoT devices, increases the number of potential attack vectors. This requires countries, organisations and companies to continually work to secure their systems against new types of threats (Chakrabarti, 2010).

One way to deal with information security challenges is to develop threat monitoring and response systems. Such systems make it possible to detect attacks quickly and take appropriate action to minimize the impact of the attack. In addition, developing employees' information security competence and awareness is key to ensuring effective protection of systems. States, organisations and companies should invest in training and information security education for employees so that they can effectively protect their systems from cyber threats (Scarfone & Mell, 2007).

### **Action taken by Countries and Organisations**

Governmental and non-governmental organisations around the world are taking a number of measures to enhance information security and protect against cyber-attacks. In 2018, the European Network and Information Security Agency (ENISA) issued a report identifying several key information security risks, such as attacks on critical infrastructure, the use of blockchain technology for criminal purposes and attacks on cloud systems. In response to the growing threats, countries around the world are taking many measures to increase the protection of their information systems. In Poland, the Internal Security Agency (ABW) is working with various institutions to raise awareness of cyber threats threats and preventive measures. The agency conducts training for businesses and government institutions and organizes information campaigns on information security. In 2020, the National Security Agency launched a special 'Safe Company' website, which provides practical advice and information on information security for businesses. Other countries are also taking similar steps. In the United States, the National Institute of Standards and Technology (NIST) has developed the Cybersecurity Framework, which is a set of recommendations and best practices for information security. In Europe, the European Network and Information Security Agency (ENISA) is developing recommendations on information security and organising training and awareness campaigns. International organisations are also taking steps to enhance information security. An example is NATO, which has developed the concept of cyber defence and provides training for its members on information security.

It is worth noting that protecting information systems and data is not only the responsibility of states and organisations, but also of individual users. Examples of good practice include using complex passwords, updating software regularly and being careful when opening suspicious messages or clicking on links. More and more activities shifting to the digital world, information security risks pose a serious challenge to societies around the world. In response to these challenges, countries, organisations and individual users are taking various measures to increase

the protection of data and information systems. It is important to remember that taking care of information security is everyone's responsibility.

## **6. Way Forward for Advancement of Information Security**

1. Collaboration and information sharing: Information security professionals should engage with their peers and industry organisations to share best practices, threat intelligence, and lessons learned. Collaboration can help organisations stay ahead of threats and better protect their data.
2. Compliance with regulations: Organisations should ensure they are compliant with relevant data protection and privacy regulations, such as GDPR and HIPAA. Compliance with these regulations not only helps protect data but also builds trust with customers and stakeholders.
3. Continuous training and education: Information security is a constantly evolving field, and it is important for professionals to stay updated on the latest trends, threats, and technologies. Employers should provide regular training and educational opportunities for their employees to ensure they are well-equipped to handle any security challenges.
4. Implementing a robust security program: Organisations should have a comprehensive security program in place that includes policies, procedures, and technologies to protect their information assets. This program should be regularly reviewed and updated to address any emerging threats or vulnerabilities.
5. Implementing security controls: Organisations should implement security controls, such as access controls, encryption, and intrusion detection systems, to protect their information assets. These controls should be regularly monitored and tested to ensure they are effectively mitigating risks.
6. Incident response planning: Organisations should have a well-defined incident response plan in place to quickly and effectively respond to security incidents. This plan should outline the roles and responsibilities of different stakeholders, as well as the steps to be taken in the event of a breach.
7. Investing in security technologies: Organisations should invest in cutting-edge security technologies, such as artificial intelligence, machine learning, and blockchain, to help them better protect their information assets. These technologies can help organisations detect and respond to threats more quickly and effectively. By following these best practices, organisations can advance their information security capabilities and better protect their data from cyber threats.



## Conclusion

Information security is a key aspect in the digital age. Inadequate data management and protection can lead to serious consequences, including information leakage, identity theft or threats to privacy. As a result, countries and organisations around the world are taking many steps to ensure the protection of their information systems. In response to this problem, more and more countries and organisations are adopting information security standards and guidelines. However, developments in information technology are also creating new opportunities for ensuring information security, such as the use of artificial intelligence in detecting and preventing cyberattacks or the development of blockchain. Solutions to secure transactions and transmitted data. Therefore, countries and organisations should continue their efforts to protect their information systems and work towards a unified information security policy that takes into account changing technologies and threats. At the same time, developing new technologies and innovative solutions can improve information security in the digital age.

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## Assessment of Health Information Resource Dissemination by Librarians for Sustainable Self-care of Diabetic Patients in Federal Medical Centres in North-Central, Nigeria

<sup>1</sup>IORLIAM, Stephen Terhemba, <sup>2</sup>OYEDUM, G. U & <sup>3</sup>CHIKE-OKOLI, F. C.

<sup>1,2</sup>Department of Library and Information Science; <sup>3</sup>General Studies Unit;  
Federal University of Technology, Minna, Niger State.

### Abstract

*The study was on the assessment of health information resources dissemination by librarians for sustainable self-care of diabetic patients in Federal Medical Centres in North-central, Nigeria. The study was guided by four objectives and research questions. Descriptive Survey research design was adopted for the study. The total population for the study is forty-five (45) medical librarians in the federal medical centres studied. Total enumeration was used since the population was manageable. Structured questionnaire and checklist were the instruments used for data collection. Out of 45 copies of questionnaire administered, 36 copies were filled, returned and used for the analysis representing 80% respectively. Descriptive statistical tool involving frequency counts and percentages, mean and standard deviation were used to analyse the data. The study revealed that the types of information resources available in the federal medical centre libraries studied are: textbooks on medical line, magazines, professional journals and dictionaries. The study recommended among others that the management of federal medical centres in North-Central, Nigeria should ensure the adequate provision of adequate information resources such as encyclopedias, Internet resources, manuals, newspapers and newsletters in order for diabetic patients to be up-to-date in their sustainable self-care.*

**Keywords:** Diabetic Patients, Information Management, Health Information Resource, Sustainable Self-care

### Introduction

Medical libraries are special libraries set up to cater for the information needs of professional health workers and patients within and outside the organisations (hospitals and health centers) which are saddled with responsibilities of providing health care services to the general populace. They are mainly entrusted with a host of pre-determined tasks like, acquisition, organisation, preservation, retrieval and dissemination of information to users. World Health Organisation (WHO) (2018) refers health to be "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity". However, illness and disease cause instability to the individual's well-being, but the provision of health information on patients' health problems and self-care at the right time may serve to reassure individuals to meet the challenges of living with the disease and promote optimal health.

Each group of people have their information needs Ali *et al.* (2018) stated that the provision of timely, accurate and relevant health information that facilitates lifestyle changes in targeted

population is of public health importance. Self-care among people living with diabetes is a prerequisite to guaranteeing life expectancy. Diabetes is one of the leading global public health concerns, striking a heavy global problem on public health as well as socio-economic growth. A better understanding of factors contributing to self-care behaviour is necessary to develop effective adherence-enhancing interventions. Worldwide a radical increment in prevalence of diabetes was related to an increased prevalence of modifiable risk factors such as unhealthy dietary patterns, lack of physical exercise, excess body weight, and sedentary lifestyle. These factors are highly responsible for the current increasing incidence of diabetes.

According to Anyaoku and Nwosu (2017), there are two key types of health information, both of which people need. First is general health information available to all, this type of health information provides information about lifestyle options, care providers, diagnoses, conditions, self-care and treatment options (including risks), and standards of care. This type of health information helps individuals to control the chances of contracting diseases. Second is personalised health information, this type of health information provides information specifically on an individual's own condition, care options and possible outcomes. This helps an individual to control and manage his condition after contact with a certain disease. More also, non-contagious diseases such as chronic respiratory diseases, HIV and AIDS cardiovascular diseases hypertension, cancer, and diabetes to mention but a few are disease conditions with many associated stress factors such as physical discomfort, pain, impairment, emotional and psychological distress.

Diabetic patients are persons receiving or registered to receive medical treatment related to diabetes. These are people that have diabetes and in need of treatment by a physician. Over the course of a lifetime, people will need a variety of skills and knowledge to enable them to control their conditions, sometimes on a day-to-day basis, and modify their approaches when circumstances change. The success of diabetes care relies mainly on patients' daily self-care activities and providers' continuous support (Parker and Kreps, 2015).

Furthermore, information is knowledge about a particular subject, issue, event or process. Health information can be published and unpublished knowledge on all aspects of health and health care. Individuals seek health information through health information resources. People search for health information from interpersonal sources, such as doctors, family and friends, and media channels, such as the Internet, books, newspapers, and television (Basnyat *et al.*, 2018). However, health

information resources are the conveyors of health information and media for storing health information for present and future use. Thus, Alduraywish *et al.* (2020) classified information resources into book and non-book materials. The book materials include medical journals, medical newspapers, newsletters, magazines, brochure, pamphlets, treatment fact sheets and many more. Non-book materials include Internet, social media search engines, medical CD-ROM technology, medical e-books, and e-journals to mention but a few. Facts about the most used and trusted sources of health information among the public will help health authorities and public awareness on media to effectively disseminate health information.

Freimuth *et al.* (2016) opined that when patients with diseases have good access to health information, they are better equipped to improve their health and quality of life, increase their ability to take control of their health, be aware of treatment options and act as equal partners in their care. For adequate self-care of diabetic patients to be achieved, dissemination of health information is necessary. The dissemination of health information is a strategy in which the behaviour changes through the means of education or health promotion or dissemination process is to foster awareness, willingness and ability to maintain and improve health (Saleha *et al.*, 2019).. The matching process is usually facilitated through a systematic approach, an appropriate media and using the right language. The ultimate goal of information dissemination is its utilisation. Thus, one of the most effective ways to increase utilisation and improve the quality and relevance of healthcare is through proactive, regular dissemination of health information to the targeted audience. This implies that in the planning and implementation of healthcare delivery,

To satisfy health information needs, diabetic patients need access to and use of relevant, timely and accurate health information resources in appropriate format. Therefore, good access to and use of health information resources become a must for diabetic patients. It is against this background that; the researcher's conducted an assessment of health information resources dissemination by librarians for sustainable self-care of diabetic patients in Federal Medical centres, in North-central, Nigeria.

### **Statement of the Problem**

Medical libraries and healthcare providers can play an important role in promoting healthy behaviours amongst diabetic patients by providing them with reliable, relevant and accurate health information resources. Access to relevant health information resources is essential for people to take appropriate decision in order to enhance their health condition particularly the diabetic patients. Medical librarians are charged with the responsibility of providing current information

to diabetic patients in a quick and cost-effective manner, provision of balanced perspective on medical issues, provision of valued services which will improve information delivery, dissemination of health information and promotion of healthy lifestyles which invariably could reduce mortality rate of diabetic patients, satisfying the health information needs of the patient locating and assisting in the development of relevant information.

However, a preliminary visit by the researcher to the Federal Medical Centres revealed that some diabetic patients who have no access to health information resources on diabetes could be lacking sustainable safe-care. This was observed from the discussion held with some of the patients who stated that they have need for health information resources. Consequently, having access to health information resources such as Reference materials (medical dictionaries, pamphlets), Periodicals (newspapers and journals), Grey Literatures (conference papers, theses, projects and dissertations), Audio resources (radio lesson, tapes and cassettes, record player), Internet, electronic databases, to mention but a few might go a long way to assist the diabetic patients achieve their sustainable self-care. Therefore, this study seeks to assess the dissemination of health information resources by medical librarians for sustainable self-care of diabetic patients at Federal Medical Centres in North-central, Nigeria.

### **Objectives of the Study**

The specific objectives are to:

1. find out the availability of health information resources at Federal Medical Centres Libraries in North-central, Nigeria;
2. assess the influence of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centres Libraries in North-central Nigeria
3. determine the method of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centres Libraries in North-central Nigeria; and

### **Research Questions**

The following research questions guided the study:

1. what are the available health information resources at Federal Medical Centres libraries in North-Central, Nigeria?
2. what is the influence of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centres Libraries in North-central Nigeria?
3. what is the method of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centres Libraries in North-central Nigeria?



## **Literature Review**

The provision of health information resources for sustainable self-care of diabetic patients at the right time may help to encourage diabetic patients to manage the diseases and promote optimum health. According to Anyaoku and Nwosu (2017), there are two key types of health information, both of which people needed; the first one is general health information available to all. This type of health information provides information about lifestyle options, care providers, diagnoses, conditions, self-care and treatment options (including risks), and standards of care. It also helps individuals to control the chances of contracting diseases. The second one is personalised health information. This type of health information provides information specifically on an individual's own condition, care options and possible outcomes. It helps an individual to control and manage his/her condition after contact with a certain disease.

Health Information according to Iorver (2020) referred to as published and unpublished knowledge on all aspect of health and health care. Individual seek health information through health information resources which cab either print or non-print resources. Health information resources are the conveyors of health information. They are all the media for storing health information. Health information resources are divided into book and non-book materials. The book materials include medical journals, medical newspapers, medical newsletters, medical magazines, medical brochure, pamphlets, treatment fact sheets and many more. Non-book materials include cassettes, medical tapes videos, medical CD-ROM technology, medical e-books, and medical e-journals to mention but a few. These health information resources if properly utilise would help people living with chronic diseases such as cancer, diabetes, HIV/AIDS and alike to effectively manage their condition and extend their life expectancy.

Information dissemination is a powerful tool for national development and has been defined by many authors in different ways. Information dissemination is defined by Oluleye (2014) as the process of communicating knowledge from one person/source to another. It also plays a vital role in achieving the purpose of that message because it describes practical methods of solving specific problems, when the right information is disseminated especially to Diabetic Patients on sustainable self-care of diabetes, it will therefore improve utilisation as they would be informed about their rights to seek health care services as well as their responsibilities towards diseases affecting their children. There are established medical and public libraries in Nigeria. Since diabetic patients considered access to information as being important and very important to the

management of their diseases, librarians in these libraries should develop vibrant consumer health information resource collections and take a more proactive role in creating awareness of these collections and services in the libraries. Outreach is the key to creating this awareness for making health information accessible by libraries. Libraries are accomplishing outreach programmes by working with schools, churches, senior citizen centers, and other community-based programmes (Iorver, 2020).

One of the major challenges to health information utilisation is illiteracy or lack of knowledge. The essence of libraries, is to provide information to all categories of persons in the medical centres bearing in mind that some of these persons cannot read and write. Therefore, medical libraries must provide not only books and other materials but also a lot of non-print and audio-visual materials because illiterate people obtain and understand information better through oral, visual and auditory means of communication. The assertion seems correct in the sight of Iorver (2020) who identified lack of health information literacy as a major challenge to health information utilisation. Despite the range of areas in which information and communications technology could make a substantial contribution to enhancing health information access, quality, and service while reducing costs, Nigeria has been slow to invest in and embrace such technology. Consequently, health information delivery has not been touched to the same degree by the revolution that has been transforming nearly every other aspect of society (Wilson, 2015).

### **Methodology**

This study adopted descriptive survey research design. The population for the study is forty-five (45) medical librarians from four federal medical centres. Total enumeration was used since the population was manageable. The research instruments used for the study were structured questionnaire with adopted four (4) Likert's scale and checklist. The data collected was analysed using both descriptive (such as frequency counts, percentages, mean and standard deviation.

## Data Analysis and Discussion

**Research Question 1:** What are the available health information resources at Federal Medical Centre libraries in North-Central, Nigeria?

Table 1 was achieved using a checklist on the types of information resources available in Federal Medical Centre Libraries studied.

Information Resources	Name of Federal Medical Centre			
	Federal Medical Centre, Abuja	Federal Medical Centre, Bida	Federal Medical Centre, Keffi	Federal Medical Centre, Makurdi
Textbooks on medical line	√	√	√	√
Magazines	√	√	√	√
Professional journals	√	√	√	√
Newspapers	X	√	X	X
Posters/handbills	√	√	√	√
Newsletters	X	X	X	X
Dictionaries	√	√	√	√
Internet resources	X	X	√	X
Medical Standards and guidelines	X	X	√	√
Conference proceedings	√	√	X	X
Encyclopedias	X	X	X	X
Manuals and guides on Diabetes	√	√	X	√

**Key:**  
[√] = Available, [ x ] = Not Available

The result in Table 2 shows the information resources that are available and those that are not available in the federal medical centre libraries studied. Information resources such as, textbooks on medical line, magazines, professional journals, dictionaries were all available in the libraries, while encyclopedia was not available in the libraries. Similarly, Internet resources and Medical Standards and guidelines were only available in Federal Medical Centre, Keffi. On the other hand, newspapers and newsletters were not available in Federal Medical Centre, Abuja, Federal Medical Centre, Bida and Federal Medical Centre, Makurdi libraries, while Manuals and guides on Diabetes were not available in Federal Medical Centre, Keffi.

**Research Question 2:** What is the influence of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centre Libraries in North-central Nigeria?

**Table 2 Influence of Dissemination of Health Information Resources to Diabetic Patients for Self-Care**

S/N	Statements	SA	A	D	SD	N	FX	$\bar{x}$	STD	Decision
1	Health information disseminated has improved my self-care level	8	26	1	1	36	113	3.14	0.64	Agreed
2	Health information disseminated has helped me to use my medications adequately	12	13	6	5	36	104	2.89	0.39	Agreed
3	Health information disseminated has assisted me to attend outreach services and programs on health	10	23	1	2	36	113	3.14	0.64	Agreed
4	Health information disseminated has encouraged me to attend workshops/seminars on health	8	24	3	1	36	111	3.08	0.58	Agreed
5	Health information disseminated has helped me to attend conferences organised by federal medical centres	17	16	1	2	36	120	3.33	0.83	Agreed
6	Health information disseminated has provided link to library websites for health information	11	18	4	3	36	109	3.02	0.53	Agreed
7	Health information disseminated has made me to like health talks	10	21	4	1	36	112	3.11	0.61	Agreed
8	Health information disseminated has introduced me to email alerts/mobile phone SMS	5	7	13	11	36	78	2.17	0.33	Disagreed
9	Health information disseminated has made me to enjoy film/video shows on health	3	6	18	9	36	75	2.08	0.42	Disagreed
10	Health information disseminated has made me to have interest listening to health information on radio and television programs	12	17	4	3	36	110	3.06	0.56	Agreed

**Key:** SA=Strongly Agreed, A= Agreed, D=Disagreed, SD= Strongly Disagreed

Table 2 reveals that ten items were listed for medical librarians to respond on the influence of dissemination of health information resources to diabetic patients for their self-care. Eight items produced high mean scores which were above the benchmark of 2.50. These items include item 5: Health information disseminated has helped me attend to conference organised by federal medical centre ( $\bar{x}$ =3.33; SD=0.83), item 1: Health information disseminated has improved my self-care level ( $\bar{x}$ =3.14; SD=0.64), item 3: Health information disseminated has assisted me to attend outreach services and programmes on health ( $\bar{x}$ =3.14; SD=0.64), item 7: Health information disseminated has made me to like health talks ( $\bar{x}$ =3.11; SD=0.61), item 4: Health information disseminated has encouraged me to attend workshops/seminars on health ( $\bar{x}$ =3.08;

SD=0.58), item 10: Health information disseminated has made me to have interest listening to health information on radio and television programmes ( $\bar{x}$ =3.06; SD=0.56), item 6: Health information disseminated has provided link to library websites for health information ( $\bar{x}$ =3.02; SD=0.52) and item 2: Information on diabetes is disseminated to diabetic patients through invitation ( $\bar{x}$ =2.89; SD=0.39). On the other hand, two items produced low mean score below the benchmark mean of 2.50. These items include item 8: Health information disseminated has introduced me to email alerts/mobile phone SMS ( $\bar{x}$ =2.17; SD=0.33) and item 9: Health information disseminated has made me to enjoy film/video shows on health ( $\bar{x}$ =2.08; SD=0.42). The two items that have mean scores lower than 2.50 indicate that dissemination of health information resources does not necessary make the diabetic patients to use them for their self-care.

**Research Question 3:** What is the method of dissemination of health information resources to diabetic patients for self-care at Federal Medical Centre Libraries in North-central Nigeria?

Table 3 shows the method of dissemination of health information resources to diabetic patients for their self-care.

**Table 3: Method of Dissemination of Health Information Resources to Diabetic Patients for Self-Care**

S/N	Statements	SA	A	D	SD	N	FX	$\bar{x}$	STD	Decision
1	Information on diabetes is disseminated to diabetic patients through posters/fliers/handbills	6	25	4	1	36	108	3.00	0.50	Agreed
2	Information on diabetes is disseminated to diabetic patients through weekly health talks	2	28	3	3	36	101	2.81	0.31	Agreed
3	Information on diabetes is disseminated to diabetic patients through outreach Services/programmes	7	23	4	2	36	107	2.97	0.47	Agreed
4	Information on diabetes is disseminated to diabetic patients through workshops/seminar	10	21	4	1	36	112	3.11	0.61	Agreed
5	Information on diabetes is disseminated to diabetic patients through yearly conferences organized by the Federal Medical Centre	8	18	7	3	36	103	2.86	0.36	Agreed
6	Information on diabetes is disseminated to diabetic patients through the library websites	7	19	5	5	36	100	2.78	0.28	Agreed
7	Information on diabetes is disseminated to diabetic patients	4	6	21	5	36	81	2.25	0.25	Disagreed

	through email alerts/mobile phone SMS									
8	Information on diabetes is disseminated to diabetic patients through film/video shows	4	7	17	8	36	79	2.19	0.30	Disagreed
9	Information on diabetes is disseminated to diabetic patients through radio/television messages	3	6	18	9	36	75	2.08	0.42	Disagreed

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**Key: SA=Strongly Agreed, A= Agreed, D=Disagreed, SD= Strongly Disagreed**

Table 3 reveals that nine items were listed for medical librarians to respond on the methods of dissemination of health information resources to diabetic patients for their self-care. Six items produced high mean scores which were above the benchmark of 2.50. These items include item 4: Information on diabetes is disseminated to diabetic patients through workshops/seminar ( $\bar{x}=3.11$ ;  $SD=0.61$ ), item 1: Information on diabetes is disseminated to diabetic patients through posters/fliers/handbills ( $\bar{x}=3.00$ ;  $SD=0.50$ ), item 3: Information on diabetes is disseminated to diabetic patients through outreach services/programs ( $\bar{x}=2.97$ ;  $SD=0.47$ ), item 5: Information on diabetes is disseminated to diabetic patients through yearly conferences organized by the Federal Medical Centres ( $\bar{x}=2.86$ ;  $SD=0.36$ ), item 2: Information on diabetes is disseminated to diabetic patients through weekly health talks ( $\bar{x}=2.81$ ;  $SD=0.31$ ) and item 6: Information on diabetes is disseminated to diabetic patients through the library websites ( $\bar{x}=2.78$ ;  $SD=0.28$ ). On the other hand, three items produced low mean scores below the average benchmark of 2.50. These items include item 7: Information on diabetes is disseminated to diabetic patients through email alerts/mobile phone ( $\bar{x}=2.25$ ;  $SD=0.25$ ), item 8: Information on diabetes is disseminated to diabetic patients through film/video shows ( $\bar{x}=2.19$ ;  $SD=0.30$ ) and item 9: Information on diabetes is disseminated to diabetic patients through radio/television messages ( $\bar{x}=2.08$ ;  $SD=0.42$ ). The three items that have mean scores lower than 2.50 indicate that these methods of dissemination do not yield any good result to diabetic patients for self-care.

### Discussion of the Findings

The findings of the study as regards to research question 1, revealed there is availability of information resources such as, textbooks on medical line, magazines, professional journals, and dictionaries were all available in the libraries studied. The availability of these resources in the libraries studied could be because they are commonly consulted information resources by diabetic patients to satisfy their information needs. This is in line with the findings of Alduraywish *et al.* (2020) who classified information resources into book and non-book materials; the book materials



include medical journals, medical newspapers, newsletters, magazines, brochure, pamphlets, treatment fact sheets and many more, while the non-book materials include Internet, social media search engines, medical CD-ROM technology, medical e-books, and e-journals to mention but a few. Similarly, Internet resources and Medical Standards and guidelines were only available in Federal Medical Centre, Keffi, while newspapers and newsletters were not available in Federal Medical Centre, Abuja, Federal Medical Centre, Bida and Federal Medical Centre, Makurdi libraries, while Manuals and guides on Diabetes was not available in Federal Medical Centre, Keffi. The unavailability of these resources could be as a result of shortage of fund needed to acquire the resources.

In response to research question 2, the study showed that influence of dissemination of health information resources to diabetic patients for their self-care is positive. The medical librarians indicated that the dissemination of information on diabetes has improved the level of self-care, use of medications adequately, attend outreach services and programs on health, attend workshops/ seminars on health, attend conferences organised by federal medical centres, provides link to library websites for health information, liking of health talks and have interest listening to health information on radio and television programs. This is probably because the dissemination of information to diabetic patients is very important as it would keep them informed about drugs and nutrition on how to balance their diet because of the nature of the disease.

On the other hand, the dissemination of information to diabetic patients through email alerts/mobile phone SMS and through film/video shows where disagreed, since. dissemination of information does not make them influence diabetic patients for their self-care. This could be because information is not always disseminated to diabetic patients via these methods.

The analysis from research question 3 showed that the method of disseminating information to diabetics' patients were through posters/fliers/handbills, weekly health talks, outreach services/programs, workshops/seminar, yearly conferences organised by the Federal Medical Centre and through the library websites. This probably because these methods of information dissemination are more used than other sources in terms of information dissemination. This is similar to the findings of Firoozeh *et al.* (2015) who indicated that new media such as satellite TV, Internet, social networks, and other similar media were used less than other information sources; however, among these media Internet has been used more often than satellite TVs. On the other hand, dissemination of information to diabetic patients through email alerts/mobile

phone SMS, film/video shows and through radio/television messages were not effective methods used to disseminate information to diabetics' patients for their self-care.

### **Summary of findings:**

1. The study revealed that the types of information resources available in the federal medical centre libraries studied are: textbooks on medical line, magazines, professional journals and dictionaries.
2. The influence of dissemination of health information resources to diabetic patients for their self-care is positive.
3. The method of dissemination of health information resources to diabetic patients for self-care is adequate.

### **Conclusion**

In conclusion, the findings of the study revealed that no library irrespective of the type or kind can achieve its goals and objectives of meeting the information needs of users without the provision of adequate and current information resources. The study revealed that availability of information resources has significant influence on sustainable self-care of diabetic patients. Therefore, the medical librarians' provision of one-on-one level of discussion, outreach services and programmes, workshops/seminars or conferences is encouraging. These services would invariably assist the diabetic patients to be involved in nutritional therapy, comply with medications, use prescribed drugs, involve in physical activities and also monitor their level of blood glucose. Once all these are certainly taken care of in the Nigerian federal medical centre libraries, the use of health information resources by diabetic patients will improve and this will also affect the level of their self-care.

### **Recommendations**

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

1. The management of federal medical centre libraries in North-central, Nigeria should ensure the provision of adequate information resources such as encyclopedias, Internet resources, manuals, newspapers and newsletters in order for diabetic patients to be up-to-date in their sustainable self-care.
2. The management of federal medical centre libraries in North-central, Nigeria should ensure that diabetic patients are continuously enlightened on the need for nutritional therapy to avoid food or diets that contain much starch and also the need for physical exercise on regular basis to burn excess sugar or calories.

3. The management of federal medical centre libraries in North-central, Nigeria should ensure that the information disseminated to diabetic patients should make them know the importance of film/video show, mobile phone and SMS to keep abreast of health information through various platforms and social media using ICT facilities and associated gadgets such as satellites and radio/television broadcasts.

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## Capacity Building and Organisational Goal Achievement of Tertiary Institutions in The Digital Age: A Case of the Federal Polytechnic, Ilaro, Ogun State.

<sup>1</sup>IRO-IDORO, Charlotte Bose & <sup>2</sup>JIMOH, Tajudeen Adisa

<sup>1</sup>Orcid ID: 0000-0002-1379-6250 & <sup>2</sup>Orcid ID: 0000-0002-6931-3369

<sup>1</sup>charlotte.iroidoro@federalpolyilaro.edu.ng & <sup>2</sup>tajudeen.jimoh@federalpolyilaro.edu.ng

Office Technology and Management Department,  
The Federal Polytechnic, Ilaro, Ogun State, Nigeria

### Abstract

*This study examined the influence of capacity building programmes on academic and administrative goal achievement of tertiary institutions. The study was carried out at the Federal Polytechnic, Ilaro and the population comprised all staff of the Institution. Survey approach was employed a questionnaire was developed as instrument of data collection. Stratified random sampling technique was adopted to select 100 staff from each of administrative and academic staff cadres in the Institution to make 200 workers surveyed for the study. Data collected were analysed with simple frequency and percentage while the hypotheses were tested with linear regression analysis at 0.05 level of significance. The results indicate a number of capacity building initiatives and programmes which are used for capacity enhancement for the staff. The results revealed that adequate and appropriate capacity building programmes contribute to individual and team performance and in turn facilitates the achievement of academic and administrative goals of the Institution. Hence, it was concluded that capacity building is an important factor that contribute to the achievement of academic and administrative goals of the Institution. It was recommended, among others, that management of the Federal Polytechnic, Ilaro and other tertiary institutions should further strengthen the capacity and skills of their staff through sustainable training and development programmes with a view to equipping them with up-to-date skills and competence necessary for institutional goal achievement.*

**Keywords:** Academic goals, Administrative goals, Capacity building, Organisational goals

### Introduction

Globally, tertiary educational institutions have the responsibilities of developing skills, competence and characters that are needed by individuals to participate in productive engagements relevant to the growth and development of their society and for providing services that are essential to the wellbeing of users, organisations, government agencies and other institutions. The need for effective utilization of human, material and technological resources for optimal performance of tertiary institutions is a critical concern of management of the institutions in respect of how the goals enshrined in their vision and mission statements could be achieved (Ugwuanyi, 2015). In pursuant of the key mandate of teaching, learning, research, innovations, skill acquisition and development, tertiary education institutions give consideration to a number

of academic and administrative factors to facilitate the achievement of short and long term goals (Ekere, 2019).

According to Chan et al. (2020), institutional goals of tertiary institutions encompasses that strategic objectives which the management of such institutions sets and which depicts expectations from employees and the anticipated outcomes of their efforts and activities. Therefore, setting organisational goals helps a corporation explain its operations and existence, define performance criteria, support corporate growth, and act as a brake on the pursuit of pointless objectives (Roy, 2020). In business, establishing clear goals can assist in tracking performance and growth and in determining key areas which need to be improved upon in the efforts of meeting the goals (Sanz-Valle et al., 2017). In order to motivate employees to work hard and accomplish the organisation's objectives, companies strive hard to properly express organisational goals. Employees can choose their course of action to help the company accomplish its goals by having a clear understanding of the organisational goals.

Polytechnics in Nigeria being tertiary educational institutions have the mandate of producing skilled manpower by providing technical and vocational training to students, promoting technological development, fostering entrepreneurship, providing access to higher education and in the overall, promote economic growth and enhance national development (Nigeria Policy on Education, 2004; Olojo, 2011; Ugwuanyi, 2015). Authors and researchers on polytechnic education have grouped these general goals into academic, administrative, social and financial goals (National Board for Technical Education, 2012; Okoli, 2016; Onah, 2018). Within the scope of this study, focus is directed at academic and administrative goals of polytechnic in the context of the Federal Polytechnic, Ilaro.

On one hand, academic goals of polytechnics in Nigeria encompasses the provision of students with practical and technical knowledge that are required to make them fit for industrial engagement; offering programmes that meet the needs of industries and the society, promoting research, development and innovation that address societal problems and that could lead to technological advancements, in addition to giving students with opportunities for lifelong learning through continuing education programmes and professional development courses (NBTE, 2012; Okoli, 2016). On the other hand, the administrative component of polytechnic goals covers the implementation and maintenance of high standard of academic programmes, facilities and resources; ensuring functional academic and learning atmosphere, managing student and staff-related affairs, encouraging culture of academic excellence and innovation among staff and

students and putting mechanisms in place to ensure adequate compliance to regulatory requirements on approved courses and programmes of learning (NBTE, 2012; Ugwuanyi, 2015; Okoli, 2016; Onah, 2018). Top of FormWhile developing sound goals helps organisations with planning, over time, Kalpana (2020) argues that goals might turn out to be unrealistic if appropriate human characteristics and capacities are not given adequate consideration. Increasingly, the use of digital tools and applications is leading to transformational shifts in public organisation activities, processes, functions and essentially, service delivery, thus demanding people capacity to adapt and perform their roles satisfactorily (Giri, 2020).

Evolving digital tools and platforms have brought about rapid changes in work processes, curriculum delivery, administrative activities, platforms and outcomes in tertiary institutions. This creates the need for people to be well equipped with necessary skills and competences to effectively integrate technology into their work and adapt to changes gainfully (Bates, 2015). In this digital age, students are often referred to as digital natives, and have been engrossed with digital tools, thereby expecting their educational experiences to reflect digital inclusion. This highlights the significance of matching instructional strategies to students' preferences and learning styles and mandates that academic staff members undergo training and development in digital technologies and approaches (Prensky, 2001). Similarly, in addition to taking advantage of the opportunities offered by digital platforms for streamlining administrative processes that are efficient and effective, faculty members play critical roles in developing and delivering curricula while the administrative staff provides support to all component organs of tertiary institutions. Hence, they need to be trained to fully capitalize on their potential and optimize the use of digital systems for tasks such as enrollment management, financial aid processing, and student record management (Becker et al., 2018)

Among the several strategies and approaches which researches have found to be dominant among organisations in improving skills, enhancing job attitude, developing job-specific capacities and maximizing potentials is capacity building (Kumara & Janaka, 2014; Fledderus, 2015; Abdikariin, 2020). Capacity Building refers to actions that improve structures and procedures as well as people's knowledge, skills, talents, and behavior in order to help an organisation effectively fulfill its mission and achieve its goals in a sustainable manner (Fledderus, 2015). Gekonde (2014) posits that capacity building as the process by which employees acquire the skills and knowledge necessary to function successfully and efficiently in a particular working setting. The ability of people, organisations, or organisational units to carry out tasks effectively, efficiently, and



sustainably is the literal definition of "capacity," which means that capacity is not a static state but rather a continuous process that guarantees that human resources and how they are used are crucial to capacity development. As a result, capacity building necessitates that the environment in which organisations operate as a whole be a major consideration (Abdikariin, 2020).

Human resource capacity building and capacity development are sometimes used synonymously. However, other people believe that while capacity development acknowledges people's existing capacities that need to be improved, human capacity building does not (Awamley, 2013). Human capacity building, according to Ajileye (2010), frequently refers to enhancing people's skills, competencies, and capacities at work since employees essentially carry out the tasks that go toward achieving the objectives of the organisation. According to Abbay (2018), the process through which people and organisations acquire, enhance, and maintain the skills and knowledge required to perform their professions competently is known as capacity building (or capacity development). Awamley (2013) submits that the establishment of capacity building programs guarantees the training and optimization of the workforce to continue their activities successfully and enhance their efficiency. Their degrees of skill, aptitude, and adaptability don't have to be exceptional in these cases.

Organisations implement capacity building programs and activities to enhance work processes and procedures, manage various tasks and affairs, and achieve a quantitative and qualitative increase in production and services offered (Cole, 2022). They also aim to improve internal cooperation, staff job satisfaction and mentalities, increase awareness and flexibility in using new tools, facilities, and methods, and increase commitment and responsibility while attempting to expand organisational functions, outcomes and performance (Ajileye, 2010). The above shows that human capacity building programmes are used to equip employees with necessary job-related competences and skills and to maintain same with a view to ensuring that their efforts contribute meaningfully to the success, survival and growth of the organisation. This research work therefore examined the impact of capacity building on organisational goal achievement of tertiary institutions with particular interest in the Federal Polytechnic, Ilaro, Ogun State. The objectives were to determine the extent to which employees' capacity building facilitates academic and administrative goal achievement in the Institution.

## **Methodology**

This study employed the survey technique in which questionnaire was used as the data collection instrument. The population comprised all academic and administrative staff the Federal

Polytechnic, Ilaro. The academic staff are the teaching personnel with responsibility for teaching, research and curriculum delivery tailored towards academic goals while the administrative staff are senior non-teaching personnel who perform primary administrative functions in all sections and units for effective functioning, and also provide support services for the achievement of primary mandates of the Institution. The study employed the stratified random sampling technique for sample selection in which 100 staff members were selected from each of the two cadres to make a total of 200 staff members surveyed in the study.

In the pursuance of the objectives, the following null hypotheses were raised:

**H<sub>01</sub>:** There is no significant influence of capacity building programmes on academic goal achievement in the Federal Polytechnic, Ilaro.

**H<sub>02</sub>:** There is no significant influence of capacity building programmes on administrative goal achievement in the Federal Polytechnic, Ilaro.

A 4-point Likert questionnaire was used as the instrument of data collection. Frequency and percentage methods were used in analyzing the data descriptively while inferential statistical tool involving regression analysis was used for the test of hypotheses at 95% confidence interval.

## Results

**Table 1:** Means Responses to RQ1 (Obs =100)

Item	Observations	Average response	Stand. Dev.	p-value
Workshop	178	3.26	0.1134	0.000
Seminars				
Conferences				
Long term training for higher qualifications				
On-the-job training				
Supervisory coaching				
Simulation of real world in a practical session				

Source: Field survey, 2023

The average response of 3.26 indicates the agreement of the respondents on the capacity building initiatives identified as being used for employees training, development and capacity enhancement purposes.

**H<sub>01</sub>:** There is no significant influence of capacity building programmes on academic goal achievement in the Federal Polytechnic, Ilaro.

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 <sup>a</sup>	.508	.345	1.63127

a. Predictors: (Constant), CB

Source: Field survey Result, 2023

The model summary table above reveals the statistical relationship of the predictor variable (capacity building) with academic goal achievement. The result shows R-value of 0.713 which indicates that there is a high positive correlation between the variables.

**Table 3: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.183	1	.183	2.381	.002 <sup>b</sup>
	Residual	7.064	176	.077		
	Total	7.247	177			

a. Dependent Variable: AcGA

b. Predictors: (Constant), CB

Source: Field survey Result, 2023

Table 3 shows a P-value of 0.002 which is less than 0.05 threshold of significance. The result indicates that the relationship of the variables in the model is statistically sufficient to explain the contribution of capacity building to academic goal achievement.

**Table 4: Regression Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	20.366	2.814		7.236	.000
	CB	.178	.108	.173	.728	.469

a. Dependent Variable: AcGA

Source: Field survey Result, 2023

Table 4 shows the regression co-efficient indicating the influence of capacity building programmes on academic goal achievement in the institution. The result gave a p-value (significant value) of 0.000 which is statistically less than 0.05 and an indication of the significance of the test. This means that capacity building has significant influence on academic goal achievement. From the result, it is shown that academic goal achievement will be at 20.36%, but a unit improvement in capacity building will yield 17.8% increase in academic goal

achievement. With the significant value of  $0.000 < 0.05$  level of significance, we reject the null hypothesis and we accept that there is significant influence of capacity building on academic goal achievement in the Federal Polytechnic, Ilaro.

**H<sub>01</sub>:** There is no significant influence of capacity building programmes on administrative goal achievement in the Federal Polytechnic, Ilaro.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562 <sup>a</sup>	.315	.309	1.44145

a. Predictors: (Constant), CB

Source: *Field Survey Result, 2023*

The model summary table above reveals the statistical relationship of the predictor variable (capacity) with administrative goal achievement in the Federal Polytechnic, Ilaro. The result shows R-value of 0.562 which indicates that there is a moderately high positive correlation between the variables.

**Table 6: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.165	1	.165	.063	.002 <sup>b</sup>
	Residual	255.545	176	2.608		
	Total	255.710	177			

a. Dependent Variable: AdGA

b. Predictors: (Constant), CB

Source: *Field survey Result, 2023*

Table 6 shows a P-value of 0.002 which is less than 0.05 threshold of significance. The result indicates that the relationship of the variables in the model is statistically sufficient to explain the influence of capacity building (independent variable) on administrative goal achievement (dependent variable).

**Table 7: Regression Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	25.070	2.786			8.998	.000
	CB	.270	.107	.250		.252	.002

a. Dependent Variable: AdGA

Source: *Field survey Result, 2023*

Table 7 shows the regression co-efficient indicating the significance of capacity building in relation skills to administrative goal achievement in the institution. The result gave a p-value

(significant value) of 0.000 which is less than 0.05 which shows an indication that the test is significant. This implies that capacity building has significant contribution to administrative goal achievement. The result shows that administrative goal achievement stood at 25%, but a unit improvement in or exposure to capacity building initiative will yield 27% increase in administrative goal achievement, all other factors kept constant. With the significant value of  $0.000 < 0.05$  level of significance, we reject the null hypothesis and we accept that There is significant influence of capacity building on administrative goal achievement in the Federal Polytechnic, Ilaro.

### **Discussion of Findings**

From the result, it is shown that there are a number of capacity enhancement programmes which members of staff of the organisation are privy to and are available to them depending on the nature of their job. The result indicated that workshops, seminars, training programmes, long term training, supervisory coaching are good human capacity development initiatives that are being used in the tertiary institutions. It was also revealed that the identified capacity building programmes are essentially important for skill upgrading, adaptability and job performance of workers in the era of constantly changing work processes and requirements as dictated by technology utilization. This finding support Ajileye (2010) and Cole (2022) that workers in any form of organisation should display remarkable level of competence and will be able to meet the skill requirement of their jobs if they are given opportunity for capacity enhancement and skill development.

The result of hypothesis 1 shows that capacity building programmes have significant contributions to academic goal achievement in the Federal Polytechnic, Ilaro. The results point to the fact that the identification of necessary skill gaps and deficiency in job performance and adaptability is essential to the management of the Institution in deciding and driving capacity building programmes that are relevant to equipping the workers with skills, aptitude and disposition that could facilitate the achievement of academic goals of the Institutions. This suggests that the institution's goal of developing human capacity, competency formation, teaching and learning, research and innovation, etc. which are central to the academic goals of tertiary institutions will be enhanced if workers are given opportunity for skill update and capacity development. The findings are in support of (Sanz-Valle et al., 2017) and Chan et al. (2020) that regular capacity building and coaching techniques are important in achieving desirable performance level of workers, especially where technology adoption is imminent.

Analysis of hypothesis 2 revealed that capacity building efforts are capable of contributing significantly to the achievement of administrative goals of the Institution. From the results, administrative goals of quality service delivery, operational efficiency, internal and external communication/collaboration, work quality, standard of performance and others are better achieved through a well-trained and dedicated workforce. It was found that capacity building programmes equip workers with necessary skills and competence to perform their jobs, avail them opportunity to update their knowledge on modern techniques and procedures, and contributes to the quality of administrative services offered. Such quality in administration is evidenced in users' satisfaction, information availability, accessibility to administrative services, community relations, etc. The finding supports Kumara and Janaka (2014) that when workers are well equipped with necessary skills for their job, they will be able to meet adapt to changing work patterns, administrative task requirement, needs and expectations. These findings align with Roy (2018) and Gordon (2021) that people are the main drivers of organisational activities and the competence and skills are needed to steer work activities to success and achieve short and long-term goals.

### **Conclusion and Recommendations**

Based on the findings of this study, it can be concluded that capacity building is essentially critical to the effective functioning of the different components and organs of tertiary institutions. People's abilities, knowledge and capacities are equally organisational capabilities for achieving goals. The enhancement of human capacity through relevant and appropriate capacity development programmes will enhance smooth functioning of departments, units and sections and will contribute to the achievement of the academic and administrative goals of the institution, among others. It is clear that regular update of staff skills through capacity building programmes will equip such staff with new skills, technical knowledge, and problem-solving abilities which they will bring to bear in the discharge of their roles. This implies that capacity building programmes and activities are important for short and long term academic and administrative goal achievement in tertiary institutions.

Workshop, professional meetings and conferences, in-house training and long-term academic pursuit will have significant contribution to rate and quality of teaching, research and curriculum delivery in addition to effective administrative processes and outcomes of tertiary institutions. With capacity building programmes, workers tertiary institutions will be able to acquired new skills, technical knowledge, and problem-solving abilities, research competence, emerging



curriculum delivery techniques, interpersonal communication, emotional intelligence, digital technology expertise, etc. which will be applied on the job. With the training, conferences, and higher educational pursuit, workers will acquire knowledge and job skills which help to increase their value and technical know-how. It allows them to master any newly introduced machines, qualifies them for promotions to more responsible job positions and increase their relevance and status.

In line with the findings of this study, it is recommended that Management of the Federal Polytechnic, Ilaro improve on the capacity building programmes for staff with a view to enhancing their competences and skills. Opportunities should be given to the staff to embark on long-term training for higher qualifications, and such members of staff should make good use of capacity building opportunities, maximize the gains of trainings for improved performance in their current job positions and for future endeavours. Self-sponsorship of long-term programmes by workers in organisation should be encouraged through approval to embark on such programmes.

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## **Digital Work Environment and Operational Efficiency of Deposit Money Banks in Yewa South Local Government Area, Ogun State, Nigeria**

**<sup>1</sup>JOLAADE, Isaac Adekunle & <sup>2</sup>ADESINA, Elizabeth Mojisola**

Department of Office Technology and Management  
School of Communication and Information Technology  
The Federal Polytechnic, Ilaro, Ogun State, Nigeria

<sup>1</sup>isaac.jolaade@federalpolyilaro.edu.ng

<sup>2</sup>muibat.owolabi@federalpolyilaro.edu.ng

### **Abstract**

*In today business world, meeting the needs of an ever-connected workforce, customers' satisfaction and experience; and as well be on top of competitors require digital work environment enactment. This study is descriptive and it examines digital work environment and operational efficiency of deposit money banks in Yewa South Local Government, Ogun State, Nigeria. Population comprised Six (6) Deposit Money Banks in the local government area, i.e. UBA, Access, Wema, Polaris, Union and IlaroPoly Microfinance Bank. Simple random sampling technique was used to determine a sample size of 120 respondents from the population. A structured questionnaire was the main instrument used for data collection. Inferential statistics was used to analyse data gathered at significance level of 0.05. Findings revealed that digital work environment has a strong positive significant contribution to operational efficiency of deposit money banks in achieving customers' satisfaction and in enhancing customers experience in Yewa South Local Government Area, Ogun State, Nigeria. The study concluded that digital work environment influences operational efficiency of deposit money banks by improving customers' satisfaction and experience. It was therefore recommended that banks should redefine their work environment strategies taking into consideration people, process, technology and business.*

**Keywords:** *Customer Experience, Customer Satisfaction, Deposit Money Banks, Digital Work Environment, Operational Efficiency*

### **Introduction**

The survival of any deposit money bank today, hinge on operational efficiency toward customers' satisfaction and customers' experience. The environment that ease collaboration, communication, and where technology enabled employees' effectively and efficiently delivered services for innovation is requisite. Uzonwanne (2015), described deposit money banks as financial institutions which provide services that accept deposits; give business and auto loans; mortgage lending with basic investment products like savings accounts and certificates of deposit activities. Further, they are referred to as commercial banks. Alperen (2015), posited that Deposit Money Banks accept deposits and valuables from clients. Also, they grant loans to diverse customers because every sector of the economy hinges on the sector for survival and growth. Additionally,

Musa & Okologume (2020), opined that deposit money banks are privately owned banks which provide wide range of financial services both to the general public and corporations. So, operational efficiency of deposit money banks is very vital for customers' satisfaction, experience and survival since they are intermediaries for investors and financiers of any nation's economy. Chen (2001), opined operational efficiency as the effective usage of human and material resources which include people, machine tools and considerable funds. It is the combination of individuals, process and technology which enhances the value of business operations and productivity to decrease the cost of tedious processes to a barest minimum. Thus, operational efficiency reveal employees' competence in delivering products and services cost effectively without sacrificing quality (Global Journal, 2016).

Deposit money banks' operational efficiency reflect how banks are administered as well as the quality of services rendered. It embraces three features which allow maximum utilization of people, process and technology for proper planning and grouping of the features to increase outputs at a reduced cost. This is an administrative tactic that sustains a safe balance of expenditures and production. In other words, operational efficiency is fundamental to deposit money banks' pursuit of creating positive customer experience and customer satisfaction in enriching clients' patronage to yield huge revenue and higher turnover (Global Journal, 2023). Banks generally positioned customer experience and customer satisfaction as the most vital feature of their corporate objectives. Customer experience is imperious to bank operations because it embraces all-inclusive planning and takes into consideration of all set-up in the banks (Farayibi, 2016). It is the complete understanding and feelings perceived of banks' services which reveals the interactions and dealings with such organisations. However, customer experience does not encompass customer satisfaction alone, but the value, quality, convenience, specialty of products and services. Also, it integrates the principles, standards, and operation of its varieties (LinkedIn, 2023).

Customers' satisfaction depict how customers are contented with banks' operations, products, services, and their whole proficiency (Worick, 2019). It evaluates how the services rendered by banks met or go beyond customers' expectations (LinkedIn, 2023). Though, customers may have excessive choices, but bank workforces must ensure a continuous and modified expertise are easily accessed for their satisfaction enhancement. Customer satisfaction therefore, stands as a very crucial factor in banking. It prompts efficient service delivery, improved interactions, transparent communication, user-friendly digital platforms, and high sensitivity customers'

feedback. Likewise, it builds trust, offers competitive products, and adapts evolving customer needs in arousing customers' satisfaction of banking services (Prashanth, 2023). Olorunniwo et al. (2006) assumed customer satisfaction as measure of customers' perception of service efficiency, value, and convenience. Zameer et al. (2018) observed that customer satisfaction in banking is measured based on the suitability of banking services and products showing ability in meeting customers' needs. In this regard, achieving customers' satisfaction from the bank products and services are fundamental to the sustenance of banks' growth. It embraces priority of outstanding services; provision of urgent solutions and easy to get support. This approach build trust, total reliability, positive experiences to guarantee customers' value and involvement (Prashanth, 2023). Realizing the feat of digital competitiveness, this study observed digital work environment and operational efficiency of deposit money banks in Yewa South Local Government Area, Ogun State, Nigeria.

Packard (2024), asserted that digital work environment provides cybernetic workplace setting which is far from the old-style discrete office environments, where components of teamwork and output are done by the use of online bids, cloud computing, and other competence. LumApps (2023) revealed digital work environment as workplace network of know-hows which permits working and conversing effectively together in organisations. It is the active scenery whereby work procedures are vastly done with easy acquisition of skills and usage (Kissflow, 2023). Further, digital work environment aids globalization of operations in organisations and expansion by forming long-drawn-out groups and new approaches of team work. And, the deed is realizable with the three key mechanisms of digital work environment of human embedded solutions, liquid squad model and single workspace were involved in forming a network where technology and human proficiency harmonized effectively (Alperen, 2015). Human Embedded Solutions leverage artificial intelligence (AI) and machine learning (ML) to identify user experiences to ensure trade is customized and natural. Liquid Squad Model embraces bendable and adjustable group plans which hinge fast on market trends and customer desires toward operational rapidity defense. But, Single Workspace incorporates platforms for various banking functions to prompt customers' control of a one-stop solution of banking yearnings. Practicing digital work environment mechanisms therefore prompt the fastness and implementation of work flexibility which assist work mixture of gaining acceptance globally (Alperen, 2015).

Deposit money banks' developing digital work environment prompt customers, financiers and shareholders' accessibility to full-service banking with positive returns. It harnesses technology

for operational efficiency improvement and as well maintain banks' core values. Digital technologies bid and adaption enable deposit money banks to tread on more successful track of digital work environment realization which integrate communication and collaborate way out with logics and automation for efficiency, awareness, and productivity (Nigel, 2023). Thus, banks are able to meet customers' satisfaction and customers' experience toward employees' high-value sustenance.

Digital work environment associated with deposit money banks provoke innovation, tradition, customers' satisfaction and customers' experience. It eventually inspires viable feat for operational efficiency and economic progression. But, the rapid change of digital technologies across the globe, incite the entrenchment of online banking for cashless policy by the government to curb money laundering. As a result, this development needs the drive in updating digital technologies inadequacy of deposit money banks' operational efficiency. Therefore, this study perceived digital work environment and outcome of operational efficiency of deposit money banks in Yewa South Local Government Area, Ogun State, Nigeria.

### **Objectives of the Study**

The main objective of this study was to investigate digital work environment and outcome of operational efficiency of deposit money banks in Yewa South Local Government Area, Ogun State, Nigeria. Specifically, it:

1. evaluated digital work environment contributions to operational efficiency in achieving customers' satisfaction in deposit money banks in Yewa South Local Government Area, Ogun State, Nigeria.
2. assessed digital work environment influence on operational efficiency in increasing customers' experience of deposit money banks in Yewa South Local Government Area, Ogun State, Nigeria.

### **Hypotheses**

- H<sub>01</sub>. Digital work environment has no significant contribution to operational efficiency in achieving customers' satisfaction in deposit money banks, Yewa South Local Government Area, Ogun State, Nigeria.
- H<sub>02</sub>. Digital work environment has no significant influence on operational efficiency in increasing customers' experience in deposit money banks, Yewa South Local Government Area, Ogun State, Nigeria.



## Methodology

This study used descriptive survey research design. Population consists of the customers of some selected Deposit Money Banks in Yewa South Local Government Area, namely: UBA, Access, Wema, Polaris, Union and IlaroPoly Microfinance Banks. Convenience sampling technique was used to determine a sample size of 120 respondents: 20 from each bank. A self-developed and validated structured questionnaire was the main instrument used for data collection. All copies of the questionnaire administered to the respondents were received without attrition. Linear regression was used to analyse data gathered at the significance level of 0.005.

## Results

### Hypotheses Testing

**H<sub>01</sub>: Digital Work Environment has no significant contribution to operational efficiency in achieving customers' satisfaction in Deposit Money Banks, Yewa South Local Government Area, Ogun State, Nigeria.**

**Table 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.733	.673	.671	.367	.673	11.329	1	118	.000

Predictors: (Constant), DWE

**Table 2: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.942	1	17.942	11.327E4	.000 <sup>a</sup>
	Residual	.833	118	.004		
	Total	18.775	119			

a. Predictors: (Constant), DWE

**Table 3: Regression Coefficients**

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	.315	.289		3.807	.000
	DWE	.437	.081	.659	8.879	.000

Dependent Variable: CS

## Interpretation of Result

Table 1 above showed the strength of the correlation between the variables and the fitness of the model. the result indicated a strong positive relationship between the two variables with r-value of .733. the outcome also revealed that digital work environment might have been responsible for roughly 67% of the overall variation in operational efficiency leading to customers' satisfaction. the adjusted r square of 0.671 indicated that the model used is a good model and adequately narrated the relationship between the variables. the standard error of the estimate is 0.367.

Table 2 provided analysis of the variance for the mean of the two variables, digital work environment and customers' satisfaction. the result specified a p-value of 0.02, which is lower than 0.05 level of significance and thus showed 95% confidence that the slope of the regression line is not zero. the f value of 0.47 was recorded. this means there is a statistically significant difference between the means of the two variables.

Table 3 above revealed mean increase in customers' satisfaction for every additional unit in digital work environment. from the result, a unit increase in digital work environment led to 43.7% increase in the mean of customers' satisfaction. thus, showing that digital work environment has significance contribution to operational efficiency in achieving customers' satisfaction in the banks. based on the result, the null hypothesis that digital work environment has no significant contribution to operational efficiency in achieving customers' satisfaction in deposit money banks is therefore rejected and the alternate hypothesis accepted.

**H<sub>0</sub>2: Digital Work Environment has no significant influence on operational efficiency in increasing Customers' Experience in deposit money banks, deposit money banks, Yewa South Local Government Area, Ogun State, Nigeria.**

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.720	.765	.766	.187	.765	18.125	1	118	.000

Predictors: (Constant), DWE

**Table 5: Anova**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.118	1	3.118	18.125	.000 <sup>a</sup>
	Residual	.397	118	.011		
	Total	3.515	119			

a. Dependent Variable: CE

b. Predictors: (Constant), DWE

**Table 6: Regression Coefficients**

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	.262	.300		5.875	.000
	TE	.545	.084	.777	.686	.000

a. Dependent Variable: CE

### Interpretation of Result

Table 4 above showed the correlation coefficient of the two variables. From the result, R-value is 0.720 indicating that there is a strong relationship between the independent (Digital Work Environment) and the dependent variables (Customers' Experience). the result also indicated that about 76.5% of the total variation in customers' experience could be accounted to digital work environment. the adjusted r square of 0.766 revealed that the model is effective enough to determine the relationship.

Table 5 above revealed the analysis of variance in the mean of the two variables: digital work environment and customers' experience. a p-value of 0.02 which is less than 0.05 level of significance was observed with f value of 18.125. this means there is a statistically significant difference between the means of the two variables. table 6 above displayed the mean increase in operational efficiency resulting in customers' experience for every additional unit in digital work environment. from the result, a unit increase in digital work environment led to 54.5% increase in the mean of operational efficiency which also increased the customers' experience. thus, digital work environment has significance influence on customers' experience as an outcome of the banks' operational efficiency. based on the result, the null hypothesis that digital work environment has no significant influence on operational efficiency in increasing customers' experience in deposit money banks is therefore rejected and the alternate hypothesis accepted.

### Discussion of the Results

The result of the first hypothesis showed that digital work environment has strong positive significant contribution to operational efficiency in achieving customers' satisfaction. This was validated by the fact that customers were able to carry out transaction in the ways which met with their needs through the banks' websites. Apart from the e-banking, where customers transfer and make deposit, the use of e-service channels to render other banking services to customers showed that customers were given adequate attention and they were efficiently satisfied with the banks service that allowed online transactions without difficulties. In line with the above findings, LinkedIn (2023) emphasised that digital work environment does not only affects customer

satisfaction, but also the value, quality, convenience, and personalization of an organisation's products or services, as well as the culture, values, and mission of its brand. Also, the result corroborated Packard (2024), assertion that digital work environment provides cybernetic workplace setting that is far from the old-style discrete office environments, but the components of teamwork and output are done with the use of online bids, cloud computing, and other competence.

The findings of the second hypothesis revealed a strong significant influence of digital work environment on operational efficiency in relation to customers' experience. This was validated by the fact that utilization of new technologies to provide different services to customers, gave the customers new picture and perception of their banks. Also, customers were able to see the efficiency of their banks in meeting the global trend in financial institutions. The above result corroborated Alperen (2015) assertion that digital workspace helps to integrate various banking functions in ensuring that customers have a one-stop solution for all their banking needs thereby increasing satisfaction and loyalty of customers. He further claimed that operational efficiency of deposit money banks is crucial for their customer satisfaction and retention as well as their survival. Also, it was in tandem with LumApps (2023) position that digital work environment is a workplace network of know-hows that permits working and conversing effectively together in organisations.

## **Conclusion**

Based on the findings of the study, the study concluded that the provision of a comprehensive digital workspace knowledge strongly relates to operational efficiency in achieving customers' satisfaction and customers' experience. As a result, when deposit money banks' environment is digitally transformed, it tends to increase customers' satisfaction of banking services. Also, the study substantiated the fact that customers' experience significantly increased when the activities of banks and their environment are digitalized.

## **Recommendations**

Following the conclusion drawn from the study, the following recommendations are made that:

1. Deposit money banks should redefine their work environment strategies taking into consideration people, process, technology and business.
2. Deposit money banks should harness their technological trend toward increasing customers' satisfaction and customers experience.

3. Deposit money banks should import customers' satisfaction and customers experience as their major corporate objective and strive toward achieving it.
4. Management of deposit money banks should give priority to Seminars and Workshops attendance to keep employees abreast of recent happenings in the digital world.
5. Management should ensure discharged services are trustful and reliable in enhancing customers positive experience to create value and patronage.

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## **Evolving Technology and Administrative Service Delivery in Tertiary Institutions in Ogun State**

<sup>1</sup>**IRO-IDORO, C. B.** & <sup>2</sup>**KEHINDE, Oluwatosin Abosede**

Department of Office Technology and Management,  
Federal Polytechnic, Ilaro, Ogun State

<sup>1</sup>charlotte.iroidoro@federalpolyilaro.edu.ng, 08037133216

<sup>2</sup>oluwatosin.kehinde@federalpolyilaro.edu.ng, 08053493656

*This study examined the influence of Evolving Technology on Administrative Service Delivery in Tertiary Institutions in Ogun State, Nigeria. The study employed the survey approach with the use of questionnaire as instrument for data collection. The population comprised of all Registry Staff in the two polytechnics covered (The Federal Polytechnic Ilaro and Moshood Abiola Polytechnic, Abeokuta, Ogun State) from which a sample of Two hundred and sixty-five (265) administrative staff were selected using systematic sampling technique. Data collected were analysed using descriptive and inferential analysis involving linear regression at 0.05 level of significance. Findings showed that the selected polytechnics have adopted evolving technologies for their administrative activities and services and that such technology use contributes to service delivery. It was concluded that the selected polytechnics and other tertiary Institutions leverage on evolving technologies to streamline their administrative processes to meet the expectation of stakeholders (students, ex-students, other institutions, organisations, management staff, faculty members, vendors, suppliers, etc.) in administrative services delivered. It was recommended that the polytechnics and other similar organisations should rein enforced their technology adoption and enhance the adaptability and digital know-how of their administrative staff through capacity building initiatives and programmes towards improving their administrative service delivery.*

**Keywords:** Administrative Staff, Evolving Technology, Service Delivery, Tertiary Institutions.

### **Introduction**

In the modern world where technology is becoming the order of the day, organisations in both public and private sector are focusing on strategic management as a way of steering their effectiveness and performance and that is why these organisations are using Technology to carry out different activities. The evolution of technology in the 21st century as affected the administrative services been rendered by Tertiary institutions. The adoption and application of evolving technologies such as computer, internet, teleconferencing apps, social media, email, phones in all areas of administration is important in tertiary institutions in order to improve service delivery. These technologies address the problems associated with the old traditional method of carrying out administrative and ancillary functions of day to day activities and help to improve service delivery. These technologies reduce the cost of administration, improve transparency,



increase speed, optimize the institutions objective and allows quick access to data and information needs of the institution (Joshua, Joshua & Ikiroma, 2014; Ohakwe, (2001); Abdulkadir, 2017; Ugbo & Chukwuemeka, 2020). Technology is the use of Information Communication Technology Tools/device to improve administrative processes and the internal working of an organisation's departments. These technological tools are changing the ways service delivery is being rendered.

Service delivery is a crucial activity for continuous organisational vision and mission attainment which sustains mission accomplishment, employees' performance, improvement on group abilities and individual competencies (Jolaade & Kehinde, 2023). The business landscape is dynamic, and trends evolve rapidly, employees in tertiary institution need to foster an agile mindset within the organisation to adapt quickly to changes and continuously refine approach to trend integration. Service delivery, a fundamental aspect of any business or organisation, is the process of providing services that meet or exceed customer expectations. It encompasses delivering the right service, at the right time, in the right manner, and at the right place to ensure customer satisfaction and organisational success. Understanding customer needs and expectations is the cornerstone of effective service delivery. Market research, feedback collection, and customer behavior analysis are essential in comprehending and tailoring services to meet customer requirements (Zeithaml, Bitner, & Gremler, 2016).

Service delivery simply means the extent to which an individual, unit or department of an organisation discharge their assigned or statutory responsibilities. It is also a means by which an organisation evaluates an individual employee or unit input and output level especially in the area of attaining set goals or task assigned. It is the degree to which an employee accomplished the tasks that made his or her job. Service delivery is the degree of an organisation and/or employee performance, output and productivity in the discharge of their responsibilities within the available time, money and other resources, towards the achievement of overall goals of the organisation (Antony et al., 2007). In this evolving technological era, data is not merely a by-product; it's a strategic asset. Technological advancements equip employees with powerful data analytics tools that unveil patterns, trends, and insights. This analytical enlightenment transforms administrative decision-making processes, enabling administrators to forecast future needs, optimize resource allocation, and navigate the complexities of a rapidly evolving business landscape with informed precision and this has helped in the quality of administrative services been delivered in tertiary Institutions.

The way and manner in which administrative service are rendered in tertiary institutions have undergone changes over time. Previously, administrative services were rendered in the traditional way which is characterized highly by rigid method with much paper work and long procedures. The result shows a poor unkempt office where a lot of resources like human, time, paper, were wasted; also there was delay in services rendered, poor quality services, laziness and corruption (Arkes, 2015; Amukugo & Peters, 2016). There were a lot of complain from students, staff and stakeholders who needed one information or another but could not get it due to poor administrative services delivery. With the influx of the technologies in the business world, traditional method of service delivery has been replaced and a lot of administrative services are rendered using the evolving technologies. Some of the administrative service rendered by tertiary institutions using evolving technology include, admission process, online registration, school fee payment, result management, routine administration such as records keeping, information dissemination. Others include computer based Test and examination. Using technology in work-related activities reduces waste of time, and mistakes on the part of workers in the discharge of their duties which is more beneficial to tertiary institution (Chukwuemeka, Ubochi & Okechukwu, 2017). Effective service delivery enables the public to know how an organisation values its clients (Jimoh & Banjo, 2018, Jolaade & Kehinde, 2023)

Evolving technology is about tools, app, devices which are used in the varying administrative culture which necessitates the engagement of employees that stimulates the commitment and transparency where the organisation is profitable (Carter 2018). Haigh, T. (2006) elucidates that every employee that offers administrative service needs to embrace a growth mind-set that emphasises flexible thinking needed to thrive in a constantly changing environment. Technologies used for service delivery improves efficiency, reduces process costs and provide better service for citizens (Akpomi & Ordu, 2019). It supports more efficient execution of administrative processes by automatically stating the next task in a process or forwarding tasks to the organisational unit which is supposed to further work on a case to minimize waiting times.

Administrative service can now be delivered anywhere and time with the aid of evolving technology device and internet facility. Evolving technology empower real-time task management, instant communication, and access to critical information, ensuring that administrators remain agile and responsive even while on the move. This mobile mastery aligns with the modern workforce's demand for flexibility, on-the-go productivity and efficient service delivery. Technology improves the process of service delivery consistently maintain its strong

reputation of quality service to regularly meet customer service expectations and also keep a good administrative environment that has a compatible automation system that will assist in enhancing employee work satisfaction (Henry, 2014; Akpoiroro, & Okpowodu 2017). It provides opportunities for the employees and ensure efficient service delivery and enhanced quality of life.

Tertiary institutions have introduced in different areas the use of electronic medium in the administration of their institutions. The use of technology as enhance information dissemination, teaching, learning, research and public service delivery. Digital administrative service delivery will ensure that staff are no longer passive in the discharge of their duties, instead would decide on the kind of services they want and structure which could best provide the same (Sharma, 2010). Technology enables tertiary institutions to improve efficiency, reduce costs and improve on both formal and current service delivery systems (Danda, 2004; Kingsley et al 2022). It also keeps storage requirements to a minimum. It allows data to be accessed by more than one person at a time. There is better security system. Data can be coded and require less workforce with fewer staff to enforce the system. In managing personnel electronically, database can be used to keep the students and staff information. These records are then used to calculate the workers output and performance, the ready available data makes decision making easy and more efficient. Evolving Technology as brought educational revolution that has changed the process and quality of services being rendered. This study therefore aimed to look at the influence of evolving technology on administrative in tertiary institutions in Ogun State.

### **Statement of the Problem**

In recent years, there has been an increase interest on how the evolving technology is affecting administration in tertiary institution and which in turn as an effect on the service delivery of employees at all levels. Processes such as, payment of fees, admission registration of students, planning events and meetings, records keeping, minutes writing, passing of information are still been carried out manually in some tertiary institutions. Technological tools and devices (computers, internet facilities android phones) and teleconferencing devices/app (Zoom, google meet, social media platforms) are available but some of these employees are not willing to adopt to the use of these tools and this as affected the quality of service been delivered. This study therefore aimed to look at the effects of evolving technology on administrative service delivery in selected tertiary institution in Ogun State

## **Objectives of the study**

The main objective of the study was to investigate evolving technology and administrative service delivery in selected tertiary institutions in Ogun State. The specific objectives are to:

1. identify the evolving technologies being used in administrative service delivery in tertiary institutions in Ogun State
2. identify the various administrative processes being carried out in the selected tertiary institution in Ogun State
3. examine the influence of evolving technology on administrative service delivery in the selected tertiary institutions in Ogun State, Nigeria

## **Research Questions**

1. What are the evolving technologies being used in administrative service delivery in the selected tertiary institutions in Ogun State?
2. What are the various office administrative processes being carried out in the selected tertiary institutions in Ogun State, Nigeria?

## **Hypothesis**

For the purpose of this study, the following Hypothesis was postulated:

- H<sub>01</sub>: Evolving technology has no significance influence on administrative service delivery in the selected Tertiary Institutions in Ogun State, Nigeria.

## **Methodology**

This study was a survey of two selected tertiary institutions in Ogun State. The population of the study comprised all registry staff in the two selected tertiary institutions in Ogun State, namely The Federal Polytechnic, Ilaro and Moshood Abiola Polytechnic, Abeokuta. There were 804 registry staff in the selected tertiary institutions at the time of the study – 432 (54%) in The Federal Polytechnic, Ilaro, 372 (46%) in Moshood Abiola Polytechnic, Abeokuta. However, Krejcie and Morgan method of sample determination was used for sample size determination at 0.05 margin error gave a sample size of 265. Multi stage approach was adopted for sample selection- sample size was allocated proportionately to each of the two schools such that 142 was allocated to The Federal Polytechnic, Ilaro and 123 to Moshood Abiola Polytechnic, Abeokuta in accordance with the percentage of each school in the study population. Systematic sampling technique was then used to select the staff from each school. A structured questionnaire consisting of twenty-six (26) items with 4-point Likert options was used as the instrument of data collection. Data collected

were analysed using descriptive and inferential methods of analysis with linear regression at 0.05 level of significance in the institution. The study took into cognizance gender in the selection of the respondents. Respondents were asked to choose one out of the four options provided in a four rating Likert Scale of Strongly Agree – 4; Agree – 3; Disagree – 2, and Strongly Disagree – 1. Two hundred and sixty-five (265) copies of the questionnaire were produced and administered on the respondents but only two hundred and thirty-three (233) copies were duly filled, retrieved and used for data analysis Therefore, data gathered was subjected to descriptive and inferential analysis with linear regression at 0.05 level of significance

## Results

**Table 1: Evolving Technology Tools/App/Device used for Administrative Service delivery**

Descriptive Statistics	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Zoom	233	3	1	4	3.03	.043	.649
Google Meet	233	3	1	4	2.84	.049	.746
WhatsApp	233	3	1	4	2.77	.042	.646
Telegram	233	3	1	4	1.81	.056	.862
Meetio	233	3	1	4	1.09	.057	.867
Google Doc	233	3	1	4	2.04	.039	.591
Dropbox	233	3	1	4	2.73	.046	.708
Google drive	233	3	1	4	3.04	.038	.575
Google Calendar	233	3	1	4	2.86	.045	.683
Bookafy	233	3	1	4	1.78	.049	.744
Buffer	233	3	1	4	1.09	.053	.805
Computer	233	3	1	4	3.06	.043	.650
Laptop	233	3	1	4	2.80	.048	.730
Internet	233	3	1	4	3.09	.048	.738
Phone	233	3	1	4	3.00	.047	.710
E-payment	233	3	1	4	2.97	.053	.804
E-wallet	233	3	1	4	2.46	.055	.835
E-banking	233	3	1	4	2.71	.053	.809
Card Payment	233	3	1	4	2.74	.056	.857
Valid N (listwise)	233						

Field survey, 2024

Table 2 shows the evolving technology tools used for administrative service delivery. It shows that Zoom, as a high mean of 3.03, while Google Meet and WhatsApp as a mean of 2.84 and 2.77 respectively. Telegram, Meetio, Bookafy and Buffer as a low mean of 1.81, 1.09, 1.78 and 1.09 respectively while Computer, Internet, phones, e-payment, e-wallet, e-banking and card payment have a high mean of 3.06, 2.80, 3.09, 3.00, 2.97, 2.46, 2.71 and 2.74 respectively

**Table 2: Administrative Processes in the selected Tertiary Institutions**

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
Admission Processes	233	1	4	3.27	.645
Computer Based Test	233	1	4	3.06	.689
Examination Management	233	1	4	3.23	.740
School Fees Payment	233	1	4	3.04	.634
Information Dissemination	233	1	4	3.27	.648
Records Management	233	1	4	2.32	.604
Financial Probity	233	1	4	3.31	.731
Valid N (listwise)	233				

Source: Field survey, 2024

The above table shows the administrative processes being carried out by the non-teaching staff in the selected Tertiary Institution. it shows that admission processes, computer based test, examination management, school fees payment, information dissemination, financial probity all has a high mean of 3.27, 3.06, 3.23, 3.04, 3.27 and 3.31 respectively while the mean for records management is 2.32.

**Table 3: Regression analysis on the influence of Evolving Technology on Administrative Service Delivery of selected Tertiary Institution in Ogun State**

### Model Summary

Model	R	R Square	Change Statistics						
			Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.293 <sup>a</sup>	.186	.182	.750	.186	21.622	1	231	.000

Source: Field survey 2024

- a. Predictors: (Constant), Evolving Technology
- b. Dependent Variable: Administrative Service Delivery



## ANOVA<sup>b</sup>

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.177	1	12.177	21.622	.000 <sup>a</sup>
	Residual	130.097	231	.563		
	Total	142.275	232			

a. Predictors: (Constant), Evolving Technology

b. Dependent Variable: Administrative Service Delivery

Table 3 present the results of regression analysis on the influence of Evolving Technology on Administrative Service Delivery of selected Tertiary Institution in Ogun State. The adjusted R Square (R<sup>2</sup>) suggests that approximately 18.2% of the variance in the administrative service delivery of employees can be explained by the perception of evolving technology. This shows a weak but positively significant influence of evolving technology on administrative service delivery of Staff. In the same vein, the analysis of variance shows that the regression model is statistically significant ( $p < .005$ ) in explaining the variance in service delivery. It indicates that evolving technology contributes significantly to explaining the variation in service delivery of administrative staff in selected tertiary institutions in Ogun State. This can be seen in the F value (21.622) and the p-value is (.000).

## Discussions

Table 1 above showed the evolving technologies used for administrative service delivery in selected institutions. These include teleconferencing technologies/app like Zoom, Google meet, WhatsApp. These institutions have adopted the use of these teleconferencing tools to pass information, hold meetings and conferences and to carry out other administrative activities. The result also shows that the least used technology/app are bukafy and buffer. These are calendar and scheduling software which can be useful to plan event and activities. Technologies are also use to carryout activities such as e-payment, card payment etc. Tertiary institutions have introduced in different areas the use of technology in the administration of their institutions. Technology have gained prominence globally in the area of information dissemination, teaching, learning, research and public service delivery Okpowodu, et al (2022). Christiana (2018), corroborate these findings that evolving technologies are used in organisation to foster the dissemination of information and that in this age of booming technology, running a business without or less technologies is like trying to breathe without lungs therefore it important these institutions make use of these technology to enhance administrative services provided to stakeholders of these institutions.

Table 2 shows the administrative services rendered by the selected Tertiary institutions. These include, admission processes, computer based test (CBT), school fees payment, records, the results show that these institutions are using technology to carry out most administrative services such as purchase of forms, students' registration, payment of fees, result management. The use of technology in admission processes has made the registration exercise less cumbersome and less time consuming. Computer based assessment is now common in these tertiary institutions. According to Bennett (2015), computer-based test represents a modern way of answering an examination questions, replacing the written pen on paper format. Some courses examination is now computer based Test (CBT) to test students' knowledge (Conole & Warburton, 2005). Traditional methods of assessment are being changed by using Technology to assess students of these tertiary institutions.

Examination management entails the whole process of administering examinations as well as preservation of results. It comprises of question paper delivery, response storage, marketing of responses, reporting of results from tests or exercises, collation, compilation and computation of results, etc. The study also revealed that these institutions are yet to fully make use of Technology for record keeping as records and mails are still treated manually and this slows down the administrative activities in the institution. Records are not electronically generated, documented or stored for easy retrieval. Most offices still have stalks of files that take up a lot space. Although the study shows that online admission process in the selected tertiary institutions has enhanced enrolment exercises of newly admitted students and make the process less cumbersome; it revealed that online payment of fees though seriously affected by poor infrastructure has enhanced financial probity by blocking leakages and this makes transaction faster and more transparent (Chukwuemeka, Ubochi & Okechukwu, 2017).

The result of hypothesis on table 3 showed that there is a weak but positively significant influence of evolving technology on administrative service delivery of employees in the selected tertiary institutions. The results show the regression analysis on the influence of Evolving Technology on Administrative Service Delivery of selected Tertiary Institution in Ogun State. The positive significance suggests that there is indeed a relationship between evolving technology and administrative service delivery. The adjusted R Square (R<sup>2</sup>) suggests that approximately 18.2% of the variance in the administrative service delivery of employees can be explained by the perception of evolving Technology. This shows a weak but positively significant influence of evolving technology on administrative service delivery of Staff. In the same vein, the analysis of

variance shows that the regression model is statistically significant ( $p < .005$ ) in explaining the variance in service delivery. It indicates that evolving technology contributes significantly to explaining the variation in service delivery of employees in selected Tertiary Institutions in Ogun State. In this context, evolving technology refers to the various factors such as computers, phones, Apps, internet facilities which impact the overall quality of administrative service to stakeholders. The result implies that as these factors usage increase or improve, administrative services also tends to increase. This can be seen in the F value (21.622) and the p-value is (.000). Therefore, the null hypothesis that states that evolving technology does not have influence on administrative service delivery is rejected.

### **Conclusion**

Technology played a significant role in promoting and enhancing service delivery in tertiary institution. Through adoption of technology the management of these tertiary institutions can improve on its administrative service rendered to stakeholders in the educational sectors and as well as have access to data that will enhanced accountability and effective use of resources thus streamlining service delivery.

### **Recommendations**

Based on the findings, the following are recommended

1. Management of the two selected tertiary institutions should introduce the use of technology for all its administrative processes
2. Management of the selected Polytechnics and other similar organisations should intensify their technology adoption and enhance the adaptability and digital competence of their administrative staff through capacity building initiatives and programmes towards improving their administrative service delivery.
3. Digital office equipment should be adequately provided in the tertiary institutions so as improve the standard and job performance of employees.
4. Stakeholders most especially students, ex-students and staff should be open for training so as to improve on how to use the evolving technologies in order to have quick access to the services being offered by the institution.

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## Impact of Digital Ergonomics on the Health/Wellbeing of Office Managers

<sup>1</sup>LAWAL, Fustina Ebunoluwa & <sup>2</sup>AJAYI, Josephine Motunrayo

<sup>1</sup>Adeleke University, Ede, Osun State; <sup>2</sup>National Orthopaedic Hospital, Igbobi, Lagos

08064082495; fusteb2014@gmail.com<sup>1</sup>

08035416615; iyaijebu2013@gmail.com<sup>2</sup>

### Abstract

*The use of digital ergonomics is important in today's corporate organisation. This is because digital ergonomics works harmoniously with people and does not cause unnecessary strain or discomfort. People in organisation today undergo a lot of stress, which affects their well-being. Therefore, it is important to find out if the use of digital ergonomics will have any effect on the Office Manager and the provision of up-to-date digital ergonomics has a direct impact on the general health and wellbeing of Office Managers. The availability of digital ergonomics reduces musculoskeletal disorders, enhances cognitive function and supports work life balance but organisation oftentimes do not pay much attention to the extent at which digital ergonomics affects their employees, Office Managers inclusive. This study is aimed at getting an understanding of the direct impact of digital ergonomics on the health/wellbeing of Office Managers. The paper is empirical in nature, the method used is quantitative research and focus was on Adeleke University Ede, Osun State and National Orthopaedic Hospital, Igbobi, Lagos. It is aimed at finding out from colleagues if digital ergonomics is to their health advantage or not. The population of the research was 50 and all responded to the questionnaires. The findings revealed respondents majorly did not have an understanding that digital ergonomics has impact on the health/wellbeing and are not aware of the proper use and existence of digital ergonomics for their wellbeing. It is hereby recommended that an up-to-date digital ergonomics should be invested in for the healthy use of Office Managers at all times, that office managers should be given training on its use and that Office Managers should take personal responsibility for their health and general well-being.*

**Keywords:** Digital, Ergonomics, Wellbeing, Musculoskeletal

### Introduction

The word ergonomics comes from the Greek word “ergon” which means work and “nomos” which means laws. It's essentially the “laws of work” or “science of work”. Good ergonomic design removes incompatibilities between the work and the worker and creates the optimal work environment. Ergonomics draws on many disciplines to optimize the interaction between the work environment and the worker. Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. (Matt M. 2023). Organisations who invest in digital ergonomics will have better job performance from their employees because good ergonomics support the wellbeing of employees. Employees need evolving ergonomics to remain



productive in the accomplishment of their tasks. Ergonomics in the work place can be defined as the overall process of arranging a workplace, systems and equipment in a way that makes it easy for people to use them; simply put, it is the setting up of a workplace fit for the humans.

The word ergonomics cut across all aspect of office manager work life. Physical Ergonomics is concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity. Cognitive ergonomics is concerned with mental processes, such as perception, memory, reasoning, and motor response, as they affect interactions among humans and other elements of a system and Organisational ergonomics that is concerned with the optimization of sociotechnical systems, including their organisational structures, policies, and processes. The list of the domain ergonomics cut across shows that there is digital equipment in ergonomics that affect office managers physical wellbeing.

Digital ergonomics is an umbrella term encompassing digital models and approaches for product and a social/technical integrated work system development, implementation, and continuous improvement. Individuals are the focus of digital ergonomics. It is the starting point for developing safe, healthy, and usable components and systems. Digital ergonomics can be used to improve the effectiveness of products and systems. Because of virtual intervention, design faults are recognized early and minimized in the final execution. (Gregory 2023). Digital ergonomics have been designed to help employees carry out their work schedule with little or no challenge with their wellbeing. It is taking into consideration a holistic approach in making the work environment more conducive for employees. Digital ergonomics ensure there is smooth interaction between humans and technology to make certain organisations meet with their set targets. Ergonomics is “A concept that is related to the study of space and practice in the workplace” Wilson, 2000. Gregory (2023) stated that digital Ergonomics have three key concepts, which are, Anthropometry – The science of measuring human body dimensions precisely. Biomechanics – The investigation of bodily movement patterns and the capabilities of biological musculoskeletal systems. And Cognitive psychology – Human cognitive processing functions include how we understand and assess things, learn, recognize, compare, consider, solve problems, and make decisions, among other things.

Office Managers by design and structure use various physical and digital technologies to achieve their set goals in the ever-dynamic business world and the use of software and hardware ergonomics is high. This study researched the impact of digital ergonomics on the physical wellbeing of Office Managers using Adeleke University, Osun State and National Orthopaedic

Hospital, Lagos as case study, and it revealed that digital ergonomics to a very large extent has not been embraced in these two organisations because they do not fully understand that ergonomics have impact on the physical wellbeing of their employees.

Therefore, this study established relationship between use of digital ergonomics and the physical wellbeing of Office Managers in Adeleke University and National Orthopaedic Hospital and also: to determine the digital ergonomics in use in the organisations and to understand the impact of use of digital ergonomics on the physical wellbeing of Officers Managers.

### **Statement of the Problem**

Employees by design and structure use various physical and digital technologies to achieve their set goals in the ever dynamic business world. Office Managers' use of software and hardware ergonomics is high. This journal researched the impact of digital ergonomics on the physical wellbeing of Office Managers using Adeleke University and National Orthopaedic Hospital, Lagos as case study, and it revealed that digital ergonomics to a very large extent has not been embraced in these two organisations because they do not fully understand that ergonomics has impact on the physical wellbeing of their employees.

### **Objectives of the Study**

The purpose of this study is to establish relationship between use of digital ergonomics and wellbeing of Office Managers in Adeleke University, Osun State and National Orthopaedic Hospital, Lagos, and also to:

1. identify the level of digital ergonomics in use in the two organisations.
2. identify the level of awareness of digital ergonomics on physical wellbeing of officer managers.

### **Research Questions**

1. What are the digital ergonomics in use in your institution?
2. Do you understand the impact of use of digital ergonomics on wellbeing of Office Managers in your institution?
3. What is the relationship between use of digital ergonomics and wellbeing among Office Managers?

## **Hypothesis**

**H<sub>1</sub>:** There is impact of use of digital ergonomics on the physical wellbeing of Office Managers.

## **Review of Related Literature**

Tafese, et al (2018) in the assessment of knowledge and practice of computer Ergonomics among Secretaries and Data Processing Workers in University of Gondar, Northwest Ethiopia, the findings show that secretaries (Office Managers) and Data processing workers who use digital equipment did not have good knowledge of computer ergonomics practice. It simply means their knowledge of computer ergonomics is low and it put them at the risk of proper handling of their ergonomics strategies. Obehi et al (2007) in Exploratory Study of Office Ergonomics among Secretaries in Benin-City: Implications for Occupational Health and Safety findings also shows that most Secretaries are not well informed of the hazards of their work, and little or no attention is given to ergonomics in their workplace. These findings show that secretary (Office managers) in Ethiopia and Benin did not have knowledge on good digital ergonomic practices and how it affects their physical wellbeing.

Dunmade et al (2014) in assessment of ergonomic hazards and techno-stress among the workers of Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria findings shows that the University staff are suffering from ergonomic hazards and they lack the knowledge of health problem and stress associated with the use of Technology. This reveals that there is positive relationship between ergonomic hazards and technology stress and that technology stress have negative consequences on individual worker's performance. Also, Gambo (2017) in Developing an observational techniques of assessing and identifying ergonomic and health risk factors associate with office work using selected state-owned tertiary institutions in Katsina. The findings show that, workers in the three state-owned tertiary institutions in Katsina State of Nigeria, are exposed to ergonomic and other health related risk factors due to poor work facilities and poor working habit. The researcher recommended that a sustainable and productive office work environment, the working facilities and work behaviour of the workers must be changed and improved and that office safety and health regulations must be made as part of the organisational practice.

Oborah et al (2021) in effect of office ergonomics on office workers' productivity in the polytechnics, Nigeria findings shows that most of the establishment did not have good ergonomics to make their workers comfortable and healthy. The researcher stated further that office workers with the right digital ergonomic of fitted furniture, equipment and environment in the tertiary

institutions in Nigeria are likely to have enhanced work output. Kumah et al (2016) in their Ergonomic Challenges of Employees Using Computers at Work in a Tertiary Institution in Ghana concluded that lack of information and skills in ergonomics contributing to poor ergonomic conditions and consequent visual discomforts among computer users in the work place.

### **How Ergonomics and Technology Combine to Help Health Best Practices**

Ergonomics is often one of the most overlooked health concerns within the office. While there are OH&S regulations for lifting, moving heavy objects, and safety when working with chemicals and electricity, and there are guidelines for how long a person should be “sedentary” (i.e. sitting), there are no formal governance requirements for the chairs that people use, or their computer equipment. Sitting for long periods of time day in, day out, has been associated with repetitive strain injury, back pain, carpal tunnel syndrome, arthritis, chronic pain and metabolic syndromes (heart disease, obesity and high blood pressure). This can be a serious cost to both businesses and the economy, and can also cause deep levels of dissatisfaction in working conditions and lifestyle. Staring at the wrong screen all day long can force the head into a position that causes strain, tiredness, and potentially causes damage to the neck muscles. It can also lead to poor posture habits in the long term and poor-quality monitor can also cause eye strain.

In recent years, standing desks have become popular, because they are proven to improve blood pressure and reduce lower back pain. At the same time, standing at a desk all day can cause new problems, such as foot pain. Subsequently, most office workers are encouraged to alternate between sitting and standing positions throughout the day now. However, shifting between sitting and standing reorients the body and requires fine control of the monitor to help maintain a comfortable head and neck position each time. With as many as 90 per cent of digital device users experiencing the symptoms of digital eye strain, investing in monitors that are proven to minimize the strain on the eyes is a quick pathway in ensuring that the majority of the workforce are comfortable while at work. Technology can only be part of the solution, and with ergonomics, best practices really need to be built into workplace policy and education to help protect the employees. Since the Office Managers deals with the use of Computer on daily basis, the following must be considered to help their well-being (BrandPost 2022):

- i. Keep the monitor at a good distance. Larger monitors are actually good for this as they encourage the employee to position themselves further away to have a good view of the whole screen.

- ii. Take quick and regular breaks to move away from the screen for a short time. This could be a quick coffee run or even a moment to step away from the desk and stretch out. It's a good idea to leave the mobile behind when doing that, so that they avoid the temptation to look at a screen at all.
- iii. Adopt a neutral posture. If sitting make sure to use the backrest, rather than hunch over forwards. If standing, be mindful to split the weight between both feet to distribute the weight evenly.

By looking after the ergonomics at a workplace, the organisation will enjoy better productivity and a more positive workforce. At a time where skill shortages are severe, it's more important than ever to make sure that employees are healthy, well looked after, and happy in their jobs. (BrandPost 2022).

## **Theoretical Review**

### **Human Factor Engineering Theory**

John Karlin is the father of Human Factors Engineering (HFE). Human factors engineering, also known as ergonomics, is a multidisciplinary field that aims to optimize the interaction between humans and their environments, systems, and products. It draws upon principles from psychology, physiology, engineering, and design to enhance human performance, safety, and well-being. The theory of human factors engineering revolves around understanding human capabilities, limitations, and characteristics to design systems that accommodate and enhance human performance. The theory is suitable for the research work because the work is centered at the relationship and interaction between human and their environment. How the environment affects the wellbeing of human and how human are able to manage it.

- i. The Key theories and concepts within human factors engineering are explained below:
- ii. Human-Centered Design: Human factors engineering emphasises a user-centered approach to design. It involves involving end-users in the design process to understand their needs, preferences, and limitations, and incorporating this knowledge into the design of products, interfaces, and systems.
- iii. Human Information Processing: Wickens et al (2013) reveals that Human Information Processing theory focuses on how humans perceive, process, store, and retrieve information. It considers aspects such as attention, perception, memory, decision-making, and problem-solving. Human factors engineers apply this theory to design interfaces and

displays that present information in a manner that is easily perceived, understood, and utilized by users. Eberts et al (1999).

- iv. **Physical Ergonomics:** Physical ergonomics deals with the interaction between humans and the physical environment. It considers factors such as posture, anthropometry (body measurements), biomechanics, and physical workload. Human factors engineers apply ergonomic principles to design workstations, tools, equipment, and environments that minimize physical strain, fatigue, and discomfort. Kroemer et al (2001).

This study also has relationship with the output of office managers to their companies and end-users and the theories listed above gives more understanding that there is need to cater for office managers in establishment a good ergonomic so that they will give out good product. If the right ergonomic is put in place, then there will be positive results to the end users.

The theories go in line with this research work because it talks on the relationship of the workers with the office environment. If the office managers have the right ergonomics, they will be sound and effective in other managerial work in the establishment. They will give more and perform better which will lead to the productivity of the company.

## Methodology

The study is empirical and the researchers used quantitative research. Total random sampling was used and all the participants filled the questionnaire sent to gather data for this research work. The study covered a population of 50 Secretaries from Adeleke University, Osun and National Orthopaedic Hospital, Lagos. The instrument had 1 section of 15 questions and three points Likert scale questionnaire with Yes (3 points), No (2 points) and Not Sure (1 point) options. Descriptive statistics was used to describe the characteristics of data collected through the use of SPSS version 26.

## Analysis and Discussion

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
DigitalErgo	50	1.00	2.20	1.5040	.37956	.210	-.1060
Physical Wellbeing	50	1.00	2.40	1.5620	.28564	.094	.558
Valid N (listwise)	50						

The mean of ergonomics is 1.5040 and the mean of wellbeing on the impact of wellbeing of office managers is 1.5620. Therefore, the mean of ergonomics is likely lower to the wellbeing



of Office Managers indicating that there is slight difference in the values of the mean of ergonomics and the mean of wellbeing of Office Managers.

#### Correlations

		Digital Ergo	Health and Wellbeing
Digital Ergo	Pearson Correlation	1	.256
	Sig. (2-tailed)		.073
	N	50	50
Physical Wellbeing	Pearson Correlation	.256	1
	Sig. (2-tailed)	.073	
	N	50	50

The Pearson correlation coefficient measures the strength and direction of the linear relationship of the two variables which are digital ergonomics and wellbeing of Office Managers. For digital ergonomics and wellbeing of Office Managers, the Pearson Correlation coefficient is .256, this indicates a weak positive correlation between the two variables which means that as one variable increases the other one increases as well. The p-value associated with the correlation coefficient measures the probability of maintaining a correlation between the two variables. It is noted that there is a weak correlation between the two variables. In this case, the p-value is 0.073 while the level of significant value is 0.05, the correlation is considered not significant at 0.05 level. This suggests that there is no relationship between digital ergonomics and physical wellbeing of Office Managers in the two institutions. This implies that the respondents are not aware that the provision of digital ergonomics by their institutions have a great impact on their physical wellbeing.

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.256 <sup>a</sup>	.065	.046	.27901	.065	3.354	1	48	.073

a. Predictors: (Constant), DigitalErgo

#### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.261	1	.261	3.354	.073 <sup>b</sup>
	Residual	3.737	48	.078		
	Total	3.998	49			

a. Dependent Variable: HealthandWellbeing

b. Predictors: (Constant), DigitalErgo

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	1.273	.163		7.818	.000
	DigitalErgo	.192	.105	.256	1.831	.073

a. Dependent Variable: HealthandWellbeing

The constant term (intercept) is 1.273. The standard error for the constant term is 0.163. The T value associated with the constant term is 7.818. The associated p-value for the constant term is 0.000 indicating that the constant term is statistically significant. The coefficient for the digital ergonomics is 0.192. The standard error for digital ergonomics is 0.105. The standardized coefficients Beta for digital ergonomics is 0.256. The T value associated with digital ergonomics is 1.831. The associated p-value (significance) is 0.073. The analysis above indicates that digital ergonomics is statistically significant in determining the physical wellbeing of Office Managers

### **Hypothesis Testing**

The p-value of digital ergonomics is reported to be 0.073 which is greater than 0.05 level of significance. The findings suggest that while there may weak, but positive relationship between the predictor variable "Digital Ergo" and the dependent variable "Physical Wellbeing", it is not statistically significant at the conventional threshold 0.05 level of significance. Thus, the hypothesis which states that "There is impact of use of digital ergonomics on the physical wellbeing of Office Managers" is hereby rejected. Hence, even though there seem to be a weak relationship, there is statistically no significant impact of use of digital ergonomics on the physical wellbeing of Office Managers.

### **Discussion of Findings**

It was discovered during the course of this study that respondents lack the awareness that there is a strong impact between digital ergonomics employees use to carry out their daily activities and their wellbeing. The prolonged sitting, improper posture during the use of computers, and repetitive tasks in general often times lead to musculoskeletal diseases such as neck pain, back pain, and Office Managers lack the necessary sensitization that ergonomics generally have an impact on their health. Akintola et al. (2017) found a high prevalence of this disease among office workers in Lagos, their study further establishes the high need for ergonomic interventions in various offices. It is established through various studies that Office Managers spend a lot of hours staring at screens carrying out daily tasks which can cause eye strain, headaches, and blurred vision. Owolabi et al. (2018) reported a rise in computer vision syndrome among office workers in Ibadan. Other findings that contribute to mental stress and fatigue for Office Managers include information overload, multitasking, and constant digital communication. Ogunwusi et al. (2020) in their study suggests a link between long working hours on digital devices and increased stress levels in Nigerian office staff.

## Conclusion

Digital ergonomics overtime is playing a significant role in promoting the health and wellbeing of Office Managers. Putting in place a proper workstation, digital mouse, good posture, intermittent breaks, organisations are to do all within their power to reduce the discomforts their staff go through, it will improve productivity and reduce the risk of work-related injuries. The cost involved at the initial stage of incurring this ergonomics may be much but the long-term benefits for both employees and organisations makes it a worthwhile investment.

## Recommendations

This study highly recommends a kind of awareness on the impact ergonomics has on the physical wellbeing of employees and also recommends provision of up-to-date digital ergonomics such as adjustable chairs, monitor stands, screen cover, proper lighting, ergonomic keyboards and above all non-clumsy office setting for Office Managers so as to promote proper posture and reduce discomfort. It is also recommended that Office Managers should take frequent breaks to stretch, walk around, and rest their eyes from the long working hours. Organisations should as well acquire and maintain user-friendly software with intuitive interfaces to minimize cognitive strain. Organisations and staff members should inculcate the habit of taking intermittent breaks from digital devices throughout the workday and encourage healthy digital habits outside of work. Educating office managers on digital ergonomics principles and the importance of maintaining a healthy work style should be given utmost priority. Organisations are encouraged to facilitate mental health resources and stress management programs as a means of coping mechanism to help their employees reduce work-related pressures. As much as possible, ergonomic solutions should be made accessible to all office managers. By implementing these recommendations and conducting further research, organisations in Nigeria can create a more ergonomically designed and healthier work environment for office managers, ultimately leading to improved well-being and productivity.

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## Role of Training and Development in Enhancing Competencies of Office Managers in the Digital Era

<sup>1</sup>Deborah O. ODUWOLE & <sup>2</sup>Rita E. AJIBOLA

<sup>1</sup>Department of Office Technology and Management,  
Adeseun Ogundoyin Polytechnic, Eruwa, Oyo State, Nigeria

<sup>2</sup>Department of Office Technology and Management,  
The Polytechnic Ibadan, Ibadan, Oyo State, Nigeria

<sup>1</sup>wumioduwole@gmail.com; +234-08033949590

<sup>2</sup>ritajib@yahoo.com; +234-8072569700

### Abstract

*Office managerial duties have changed significantly in the digital era, requiring a change in skill sets and competencies to successfully navigate every aspect of the digital environment. This opinion paper examines how training and development could contribute to office managers' competence in the digital era. The study emphasises the vital role that investing in office managers' knowledge, skills, and capacities plays in promoting organisational performance. It does this by drawing on pertinent ideas such as the theory of human capital and social learning theory. The study presents concepts to provide office managers the essential digital skills and capabilities through an examination of training and development techniques, including on-the-job and off-the-job training approaches. The study also highlights how critical it is to evaluate training needs to pinpoint gaps in skills and provide individualized programmes that meet office managers' demands. Organisations can ensure that office managers are competent and prepared to succeed in the digital era by giving priority to training and development efforts, cultivating a culture of continuous learning, and granting access to a wide range of learning tools. In its conclusion, the paper offers suggestions on how organisations might improve office managers' proficiency. It draws attention to the value of training courses and encouraging learning environments.*

**Keywords:** Digital Competence, Digital era, Office management, Training and development,

### Introduction

Competence is the capacity to successfully combine and apply pertinent information, skills, and psychological aspects within a subject matter. It necessitates being aware of and responsive to the environment in which one works (Vitello *et al.*, 2021). In the context of office management, competency entails the smooth integration and application of a variety of knowledge, skills, and psychological aspects related to office operations for efficient, effective, and smart performance. Office managers now play a more diverse role than they did in the past due to the rapid advancement of technology, which has made office management methods fundamentally shift to keep up with digital trends. The methods of producing, processing, and storing information in

office settings have been completely transformed by the introduction of contemporary digital initiatives such as the use of Artificial Intelligence, Data Analytical tools, etc. As a result of this, office managers now consider these technological innovations to be essential tools that help them increase productivity and streamline processes (Kettunen and Laanti, 2017). Due to the advent of digital trends, a shift has also occurred in the skill sets needed for efficient performance. Hence, there is a need to be highly knowledgeable and skilled in using digital tools and software, contrary to conventional management practices that mostly rely on their physical and mental faculties for duties like the creation, processing, and storage of files. For office managers to properly traverse the complexities of the current digital era, there is a need to undergo a series of training and upskilling that will upscale their knowledge base and professional expertise.

Prioritizing training, however, is essential because the competencies of the office managers must be developed to support the operational effectiveness and innovation of organisations. Training involves increasing workers' physical and mental competencies to increase output. Developing their skills and mentality concerning different trends and concepts that apply to improving organisational performance globally (Anwar and Abdullah 2021). Training and development are interconnected and complementary aspects. They rely on each other to achieve the common goal of enhancing productivity. Training focuses on improving current managers' skills, while development involves planning for their future roles and responsibilities within the organisation. These initiatives can be offered simultaneously or separately, depending on the organisation's needs (Ismael *et al.*, 2021). An organisation aims to support its employees in reaching their targets through training, while development entails providing them with additional responsibilities and plans aligned with their capabilities. Well-trained managers are better equipped to face future challenges and contribute significantly to the organisation's success (Anwar and Ghafoor, 2017).

There are several publications and researches that address the importance of training and development in improving the performance of employees (Amegayibor, 2021; Nama *et al.*, 2022; Sherifah *et al.*, 2022; Yimam, 2022), however, there is paucity of information on training and development that is specific to office managers. This paper, therefore, examines how important it is for office managers to receive training and development to improve their competencies in the digital era. In addition to reviewing relevant theories, it will look at the body of research on training and development in organisational settings. To improve managers' competencies, the conclusion will provide insights and suggestions about the integration of training and development strategies appropriate for the digital age.



## **Theoretical Review**

### **Human Capital Theory**

The theory of human capital focuses on the critical role that investing in people's knowledge, skills, and capacities play in promoting economic growth and organisational success. It was initially based on the concepts of Adam Smith who emphasised the value of education and training in raising labor productivity and was later refined by scholars such as Theodore Schultz and Gary Becker (Amegayibor, 2021). Expanding on this idea, Schultz emphasised that in addition to the more conventional investments in physical assets like plants and equipment, training, education, and skill development investments are essential to economic success. Schultz defines human capital as the whole of an individual's knowledge, abilities, and skills that add to their economic worth to companies. Schultz further emphasised that investing in human capital is crucial for preserving a competitive edge, raising workers' productivity, and strengthening organisational assets. In essence, human capital is a strategic tool that helps businesses maintain and increase productivity (Schultz, 1993; Schuller and Field, 2013). The knowledge, abilities, and talents of people that add to an organisation's economic worth are further characterized by Bohlander *et al.* (2003) as human capital. Schultz's views were affirmed, emphasizing the role that human capital plays in fostering organisational success. Enhancing managers' competencies in the digital age is in line with the theory of human capital, which points out the importance of investing in digital skills, being flexible enough to adapt to changing technology, making decisions based on data, taking the lead in digital transformation, and cultivating a culture of lifelong learning. Organisations can build a highly trained managerial workforce that can propel success in the digital era by giving priority to training and development in these areas.

### **Social Learning Theory**

According to Bandura and Adams (1977) in the explanation of Social Learning Theory (SLT), social interactions play a major influence in how people learn and behave. Importantly, people learn by seeing other people in social situations, a process known as observational learning. People may observe actions through this mechanism and adopt and mimic them, especially if the observed activities result in rewards or positive reinforcement. In imitation, one must replicate seen motor actions. Behaviorism and cognitive theories are connected by SLT, which incorporates their underlying ideas. The framework provides a thorough view of learning and development by incorporating elements like motivation, attention, and memory (Nbavi, 2012). According to Social Learning Theory, office managers have the potential to pick up digital competencies through collaboration with high-technology organisations or industries, seeing others in their

social environment who are exhibiting successful behaviours. By giving managers, the chance to work with peers, get positive reinforcement, and model digital abilities, training and development programmes can capitalize on this.

### **Training and Development**

There is no standard definition for training and development, thus researchers are free to define it in terms of the organisational setting. Its adaptability to various organisational demands and research areas enables unique methods (Amegayibor, 2021). To increase training programmes' efficacy and relevance, researchers can investigate a range of viewpoints and link them with organisational requirements. Training is an organized procedure designed to provide workers with the knowledge, abilities, and attitudes they need to carry out their jobs well (Said *et al.*, 2022). Development is the process of gaining the knowledge, abilities, and attitudes required to successfully perform particular activities or obligations. To prepare people for positions of greater responsibility, development is viewed as an extension of education and training (Karim *et al.*, 2019). It places a strong emphasis on acquiring skills, information, values, and behaviour, with an eye toward long-term professional development and potential. Training, assessment, education, and feedback are activities that make up office managers' development (Amegayibor, 2021). According to Olusoji *et al.* (2017) and Amegayibor (2021), there is a difference between training and development. Training chiefly aims to provide employees with the abilities and information they need to carry out their existing work responsibilities. The procedure is usually brief, taking three to six months on average to enhance the skills and competencies of current employees. On the other hand, development is seen as an ongoing, long-term activity. Although development focuses on more extensive skill upgrading and prospects for progress beyond existing employment, training equips workers for their immediate job obligations. Training is thus more immediate and job-specific, whereas development includes continuing skill-building and career advancement.

Office managers' growth and productivity are facilitated by training and development, which is a vital component of an effective business. To enhance performance in the present jobs and get ready for bigger responsibilities, training, and development entail transferring pertinent skills, information, and competencies (Rodriguez and Walters, 2017). Since conventional schooling frequently fails to provide job-specific abilities, this procedure is essential. This gap is filled through training, which guarantees that office managers have the skills needed to make a significant contribution to the expansion of the company (Obi-Anike & Ekwe, 2014). Training,

whether official or informal, strives to maximize managers' contributions, maintain economic development, and promote efficient organisational performance (Sherifah *et al.*, 2022).

### **Training Needs Evaluation**

Training needs evaluation is also referred to as training needs assessment in some works of literature (Engetou, 2017; Amegayibor, 2021; Sherifah *et al.*, 2022). Training needs evaluation is a methodical procedure designed to find skills and knowledge gaps among employees within an organisation (McGuinness and Ortiz, 2016). It is vital for businesses since it assists in identifying areas in which training efforts should be concentrated to accomplish organisational goals. In this procedure, the desired skill set required for peak performance is compared to the employees' present capabilities. This evaluation acts as an assessment mechanism, ensuring that training programmes are in line with employee development requirements and company goals (Gobena, 2017). In line with the focus of this paper, training needs evaluation is used in determining gaps in office managers' abilities, and knowledge. It entails assessing office managers' present competencies in light of the needs of their positions and the goals of the company. Organisations can meet the unique needs of office managers with focused training programmes that will improve performance, morale, and productivity.

Engetou (2017) described procedures that could be taken to identify the training needs of employees, which is equally applicable to office managers. To identify the areas where managers fall short on required abilities, this entails examining job requirements. Organisational analysis evaluates performance measures to pinpoint problem areas. Performance reviews measure a manager's efficacy in relation to work goals. Furthermore, certain difficulties are brought to light by managers' input obtained through human resource surveys. Following requirements analysis, the human resources division launches focused training programs to close skill gaps, promote administration excellence, and match leadership competencies with company objectives.

### **Training and Development Methods**

Based on variables like the nature of the industry and employee requirements, organisations use an array of training and development strategies (Mohammed *et al.*, 2022). The two main strategies are off-the-job training and on-the-job training.

#### **On-the-Job Training**

On-the-job training takes place within the organisation and incorporates hands-on instruction with equipment and resources used in the workplace (Mvuyisi and Mbukanma, 2023). It is extensively

used at all organisational levels, giving workers practical experience and enabling them to learn while doing their jobs. This approach saves money, saves time, and concentrates on improving particular job-related abilities (Falola *et al.*, 2014). Skill development, employee involvement in productive tasks, and the effective integration of new recruits into the company culture are all facilitated by on-the-job training. According to Abomeh and Peace (2015), Engetou (2017) and Amegayibor (2021), apprenticeship, induction training, job rotation, and job instruction are examples of usual on-the-job training programs. However, the specific on-the-job training techniques designed to meet the demands of office managers include job rotation and job teaching. By giving office managers particular trainings that they can use in their work environment, enables concentration on improving their skills and talents.

**Job Rotation:** In order to improve the caliber of the workforce in contemporary companies, job rotation is a vital part of employee education and development (Akbari and Maniei, 2017). With this method, workers are exposed to a wide range of experiences and responsibilities by being methodically rotated from one department or job function to another. The goal is to increase employees' skill sets, increase their comprehension of how organisations function, and encourage flexibility, according to (Kampkötter *et al.*, 2018). The success of work rotation, however, depends on strict supervision and planning. Inadequate organisation and direction may prevent it from producing the desired results and perhaps cause staff frustration. As employees struggle to adjust to frequent changes in duties and work surroundings, poorly managed job rotation programs may cause confusion, decreased efficiency, and disengagement.

Al-Romeedy (2019) study on the role of job rotation in enhancing employees' performance in the Egyptian travel agents emphasised the positive impact of job rotation on motivation, job satisfaction, and organisational commitment in tourism organisations. It was also stated that successful job rotation implementation improves employee performance, but organisations must address concerns such as increased workload. It was also recommended that in maximizing job rotation benefits, organisations should mitigate job burnout and enhance work-life quality through organisational justice and recreational activities.

The research findings of Jocom *et al.* (2017) indicate that job rotation at PT. Pegadaian (Persero) Manado does not significantly impact employee performance, despite positive assumptions. Factors such as employees' reluctance to be transferred due to location constraints contributed to this outcome.

**Job Instruction:** It is an organised training method that walks staff members step-by-step through the procedures needed to do particular duties (Mohammed *et al.*, 2022). It includes dissecting the task into manageable steps and offering precise instructions and direction on how to carry out each one efficiently. With the help of this approach, workers and managers are guaranteed thorough instruction on every facet of their jobs, enabling them to carry out duties precisely and effectively.

### **Off-the-Job-Training**

Formal training programs that take place outside of the typical workplace setting are referred to as off-the-job training (Idahosa, 2016). Workers may take one or two working days off each week or month to attend lectures, seminars, or workshops. Even if the training is being held off-site, attempts are being made to replicate the real working environment by employing techniques like role-playing or making use of pertinent tools and resources. In order to give employees an array of learning opportunities, this kind of training permits a greater range of activities, such as lectures, internships, apprenticeships, and practical exercises. The goal of off-the-job training is to reduce workplace stress and provide an atmosphere that is favorable to learning and skill development (Amegayibor, 2021). According to Mohammed *et al.* (2021), off-the-job trainings that office managers could be engaged in include;

**Programmed Instructions:** Programmed instructions use an organised training methodology. This involves using preprogrammed materials and contemporary teaching aids like filmstrips. To guarantee that students properly proceed through the content, the trainer supervises the learning process.

**Classroom lectures:** These are structured learning sessions led by certified teachers that adhere to a preset curriculum.

**Workshops, Seminars, and Conferences:** This offers engaging forums where special guests share their knowledge in certain domains, providing attendees with insightful information.

**Vestibule training:** This training allows managers to practice showcasing their abilities with common tools and equipment in a setting that mimics the workplace. These varied approaches take into account different learning styles, which helps to improve workers' abilities and general performance inside the company.

According to the study conducted by Ab-Rashid *et al.* (2020), employee performance in franchise restaurants is highly impacted by both on-the-job and off-the-job training. The impact of off-the-

job training is greater. To effectively improve employee performance, it was advised to place a strong emphasis on off-the-job training content.

### **Role of Training and Development in Enhancing Competence of Office Managers in the Digital Era**

Office managers are essential to the efficient running of administrative duties and procedures inside businesses in the digital age. They serve as a liaison between several departments, supervising correspondence, organizing events, and effectively allocating resources. The contemporary period, known as the digital era is defined by the widespread impact of digital technology on a wide range of areas of human existence. It represents the broad acceptance and assimilation of computers, mobile devices, the internet, and other electronic instruments into the economy, society, and culture. Nowadays, people can interact, access information, and complete transactions from anywhere at any time due to a global connection. Industry changes brought about by digital transformation have promoted automation, creativity, and new business models. Digital literacy has evolved as a critical ability for thriving in the digital world alongside social media and online communities which is now essential for collaboration and interaction.

Within the digital age, office managers' responsibilities encompass incorporating digital tools and technologies into day-to-day operations, supervising data management procedures, enabling efficient communication via digital channels, streamlining processes via digital solutions, managing projects through digital project management tools, adjusting to quickly changing market trends and technological advancements, and helping colleagues enhance their digital literacy and skills. In the current digital era, office managers play a crucial role as coordinators of administrative procedures, use technology to improve productivity, encourage teamwork, and propel the success of their organisations in an ever- evolving digital setting.

In a bid to enhance the competence of office managers in this digital era, training and development initiatives in the organisations should be directed towards information management because the duties of office managers hinge solely on it. The basic functions of office managers include; recording, receiving, disseminating and arranging information (Kapur, 2018).

**Recording Information:** Documentation management tools (such as Google Drive, Dropbox, and SharePoint) are platforms that office administrators may use to capture and save documents that are important, including project documentation, policies, procedures, and reports (Tetra, 2023). Office managers can examine productivity and effectively manage workload by using scheduling



apps, such as Toggl, RescueTime, and Harvest, which enable them to keep track and monitor the amount of time spent on different projects and activities (Toggl, 2024).

**Receiving Information:** Office managers may utilize communication platforms like Microsoft Teams and Zoom to get information via video conferencing, virtual meetings, and instant messaging from team members, stakeholders, and clients (Vorina *et al.*, 2022). Office managers can still rely heavily on mailing platforms such as Yahoo, Gmail to get critical notices, messages, and updates from stakeholders within and outside the company.

**Disseminating Information:** Office managers can use communication social media platforms such as WhatsApp to post announcements, share documents, and facilitate discussions with team members (Farah-Farzana *et al.*, 2024). Office managers can use Learning Management Systems (LMS) platforms such as moodle to distribute training materials, courses, and resources to staff members, making sure they have access to pertinent information for professional development (Tech Targets, 2023).

**Arranging Information:** Office managers can sort and organize digital documents and data in a methodical manner with the help of document management solutions like Google Drive, Dropbox, or SharePoint. To make sure that information is organized in a way that is both structured and easily available, managers can create folders, classify documents, and set access restrictions.

A comprehensive approach to office managers gaining digital skills which aims to improve their competencies is provided by combining on-the-job and off-the-job training approaches. Practical experiences in the workplace, such as task assignments that center on the use of digital tools, job rotations, are all part of on-the-job training. On the other hand, off-the-job training takes place outside of the immediate workplace and entails external learning activities. This might involve participating in hands-on practice in simulated settings, enrolling in certification programs to confirm abilities, accessing online tutorials and courses on sites like Udemy or Coursera, and attending workshops, seminars, or conferences devoted to digital tools and technology that aid office management practices. Hence, office managers can increasingly develop their competence, self-assurance, and knowledge base in the use of digital resources in the workplace by combining the on-the-job and off-the-job training approaches.

## Conclusion

In a nutshell the performance of an organisation in the digital age depends significantly on the competency of office managers. Office managers can only be fully prepared to handle the technicalities of the digital world if they have access to training and development programs. Organisations can improve the competency of office managers and make sure they are well-equipped to drive innovation, efficiency, and productivity in the digital age by investing in specific training programs, regularly evaluating training needs, and promoting an environment that encourages learning.

## Way-Forward

Organisations ought to give top priority to creating specialized training programmes that fill in specific skill shortfalls and support organisational objectives in order to further improve the competency of office managers in the digital age. Office managers should also be actively involved in professional development and ongoing learning, and organisations should facilitate this by giving them access to a wide range of learning tools and fostering an atmosphere that is encouraging of innovation and progress. Organisations can help office managers to thrive in the digital age and add to the overall performance of their organisation by putting the aforementioned recommendations into action.

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## **Cybersecurity Awareness and Practices and Information Security of Office Managers in Some Selected Private Organisations in Lagos State**

<sup>1</sup>OGADI, P. N., <sup>2</sup>OLOMOLA, B. T., & <sup>3</sup>IGE, O. J.

Department of Office Technology and Management,  
Yaba College of Technology, Yaba, Lagos State.

<sup>1</sup>philomena.ogadi@gmail.com, 08037151814; <sup>2</sup>demilade2003@yahoo.com, 08035737944;

<sup>3</sup>oluwaseye.ige16@gmail.com, 08030608685.

### **Abstract**

*The study examined the influence of cybersecurity awareness and practices on office managers' information security. A descriptive survey design was used and the population was sixty-nine (69) office managers selected from some private organisations in Lagos State. Those targeted office managers were graduates of the Office Technology and Management (OTM) department, Yaba College of Technology, Yaba, Lagos State between 2018 and 2022 (Full-Time and Part-Time). A convenience sampling method was used and the total enumeration was adopted. The questionnaire was subjected to a reliability test and it produced a Cronbach's Alpha value of 0.781. Out of the expected 69 office managers, fifty-seven (57) completed and submitted the e-questionnaire. Data were analysed using both descriptive and inferential statistics of multiple regression at the 0.05 significance level. The result [ $R=.714$ ;  $R^2=.434$ ; Adj.  $R^2=.428$ ;  $F\text{-value}=33.523$ ] and also showed that cybersecurity awareness contributes 17% [ $\beta_1=.116$ ;  $p\text{-value } 0.00 < 0.05$ ]; cybersecurity practices contribute 8.4% [ $\beta_2=.064$ ;  $p\text{-value } 0.02 < 0.05$ ]. Both results showed that cybersecurity awareness and practices significantly influenced office managers' information security. The findings proved that office managers with higher levels of cybersecurity awareness and practices can demonstrate effective information security skills, and identify and mitigate potential security risks that could lead to more streamlined operations. It was concluded that cybersecurity awareness and practices have a strong influence on office managers' information security. It was recommended that management should provide relevant technological resources and training programmes for office managers to foster a cybersecurity-conscious culture within the organisation.*

**Keywords:** *Cybersecurity Awareness and Practices, Information Systems, Information Security Management, Office Management and Administration*

### **Introduction**

Information is one of the greatest resources of every organisation. It is needed in all aspects of business activities and operations. It is viewed also as data and could be described as the lifeblood of modern organisations (Morgan, 2022; Marr, 2022). Information could be in the form of documents, data, expertise, and communication channels that help organisations achieve smooth and successful corporate operations and activities. The information enables the management to make concrete and effective decisions and develop strategic planning for the organisation (Asif, 2023). As a result, effective information security is essential for every company that wishes to



fulfil its objectives. Information should be safeguarded to protect the organization's integrity. Information security refers to the measures and controls put in place to protect the confidentiality, integrity, and availability of an organization's information assets (Asif, 2023), such as access controls, encryption, authentication, audit trails, and security policies to avoid unauthorized access, cyberattacks, data breaches, and threats from the internet.

A cyber threat is a dynamic and all-encompassing concept in which harmfulness emanates from malicious actors while exploiting weaknesses in digital systems, networks, or online platforms (Olaniran, 2022). These dangers jeopardize the confidentiality, integrity, or availability of information, endangering people, organizations, and even whole countries. With the experts in charge of IT, they can easily develop sophisticated attack vectors to exploit vulnerabilities efficiently and effectively. Technological advancement has led to a continuous emergence of new vulnerabilities that need to be carefully studied and be able to counter by IT experts. Also, Artificial Intelligence (AI) and the Internet of Things (IoT) are typical examples of emerging technologies that are prone to dangers and opportunities and these two can be exploited if not adequately secured and protected (Sontan & Samuel, 2024; Arroyabe et al., 2024). Cyber dangers can take many forms in the changing digital world of interconnected technological advancements such as disruptive actions, opportunities for unauthorised access, and data breaches (Arroyabe et al., 2024). Countries with advanced capabilities, criminal groups, and highly skilled hackers pose a significant threat.

In the digital era, most organisations embrace the Internet to exchange their correspondences with their customers – internal and external. Organisations adopt this method due to its cost-effective, efficient delivery and receipt of mail, prompt sending of mail to multiple individuals, and large storage space for both outgoing and incoming mail. The size of information organisations handle solely depends on how big their business operations and activities are. In an office, the individuals who oversee the exchange of these emails (correspondences) are referred to office managers. They are regarded as the custodians of the organisation's information and they attend daily to a large volume of office correspondence both online and offline (Durojaiye, 2023; Asogwa & Agusiobo, 2022). It is therefore imperative for them to understand how to secure the confidential information of their organisations. Since most organisations are viable on the Internet, a better understanding of cybersecurity is therefore a must for office managers.



Cybersecurity is the process of preventing sensitive information from being stolen or damaged (Sheth, Bhosale, & Kurupkar, 2021). It is a process of safeguarding computer systems, devices, networks, and information from unauthorized individuals, cyber harms, information theft, and other cyber threats. It includes a variety of technologies, procedures, and practices aimed at protecting digital assets and ensuring the integrity, confidentiality, and accessibility of information in the face of changing cyber threats (Asif, 2023; Olaniran, 2022). Organisations rely on information to compete in a competitive market, yet information is continuously at risk of loss or theft. Loss of critical knowledge has severe effects on individuals as well as businesses. Cybersecurity defines the conditions that an organisation must meet to fulfil cybersecurity objectives and combat cybercrime (Pietrek & Skelnik, 2023). To successfully meet the goals of adopting cybersecurity at various levels, employees must be aware of cybersecurity, its challenges and cyber-threat and the best practices that must be followed during work hours.

Cybersecurity awareness is a cornerstone in the defence against an increasingly sophisticated and prevalent array of cyber threats (George, George, & Baskar, 2023). For every Internet user, the cultivation of cybersecurity awareness as the globe grows increasingly linked. People who are aware of cybersecurity are more likely to recognize the value of protecting sensitive data, including financial, personal, and proprietary company information. Users with greater knowledge are less likely to fall for phishing scams or unintentionally provide important information. People who are knowledgeable about cybersecurity are better able to identify possible online dangers including malware, phishing, and social engineering scams (Sharma & Thapa, 2023). Early detection and prevention are often driven by knowledgeable user behaviour, which significantly improves the cybersecurity posture overall.

Cybersecurity practices are the proactive and preventive approaches adopted to safeguard digital assets that help to focus on identifying and mitigating potential cyber threats (Stransact, n.d). This approach is essential for organisations to protect against sophisticated threats, maintain the confidentiality of sensitive information, and enhance overall resilience in the face of the continually evolving cyber threat landscape. Effective cybersecurity practices empower both individuals and organisations to stay vigilant, make informed decisions, and adopt measures that mitigate the risks associated with the continually evolving landscape of cyber threats (Thakur, 2024; Efijemue, et al., n.d). Regular evaluations, updates, and improvements to these practices are fundamental for maintaining a strong defence against emerging security challenges.

## **Objectives of the Study**

The main objective of the study is to investigate the influence of cybersecurity awareness and practices on information security of office managers in selected private organisations in Lagos State; the specific objectives are to:

- i. assess the information security needs of office managers in selected private organisations in Lagos State,
- ii. examine the level of cybersecurity awareness of office managers in selected private organisations in Lagos State
- iii. ascertain the cybersecurity practices of office managers in selected private organisations in Lagos State, and
- iv. determine the significant influence of cybersecurity awareness and practices on the information security of office managers in selected private organisations in Lagos State.

## **Research Questions**

The study provided answers to the following questions:

- i. What are the information security needs of office managers in selected private organisations in Lagos State?
- ii. What is the level of cybersecurity awareness of office managers in selected private organisations in Lagos State?
- iii. What are the cybersecurity practices of office managers in selected private organisations in Lagos State?
- iv. What is the significant influence of cybersecurity awareness and practices on the information security of office managers in selected private organisations in Lagos State?

## **Hypotheses**

The two below null hypotheses were tested at a 0.05 significance level:

- Ho1: There is no significant combined influence of cybersecurity awareness and practices on the information security of office managers in selected private organisations in Lagos State.
- Ho2: There is no significant relative influence of cybersecurity awareness and practices on the information security of office managers in selected private organisations in Lagos State..

## **Review of Related Literature**

### ***Information Security***

Information security is the strategic use of strategies and technologies to protect and secure confidential information against unwanted access from hackers who engage in online criminal activities, unlawful disruption, inspection, or diminishment (Asif, 2023), or inspection. Information security can be described as a practice of securing information from unauthorized individuals. According to Somepalli, Tangella, and Yalamanchili (2020), information security necessitates a comprehensive strategy that considers technological, procedural, and human elements to establish and maintain a safe office environment for information. Information, as an asset of every organisation, requires the involvement of a variety of stakeholders like IT experts, security specialists, management, employees, and office managers - the life-wires and custodians of information in the organisation. Office managers in certain organisations are most commonly referred to as information managers as the administrative procedures they are constantly exposed to are aligned with the conventional office information management tasks (Okpokwasili, 2018). Today's office managers need to make use of modern office machines/equipment that would enable them to secure and protect confidential information in their organisations.

### ***Information Security Needs of Office Managers***

The prominent office personnel who are saddled with the responsibility of handling and safeguarding information are office managers. They are gatekeepers, information bearers or custodians, and life-wires of every organisation due to the volume of information they treat daily. They need specialized information security measures to maintain the integrity, confidentiality, and availability of sensitive information. Office managers oversee a vast volume of emails and some of them are confidential and sensitive. Office managers handle sensitive information such as documents, emails, and schedules (Durojaiye, 2023; Asogwa & Agusiobo, 2022; Ezeonwurie & Ugwoke, 2021). For the prevention of unwanted access, office managers need to use proper access controls such as two-factor authentication, strong passwords, and restricted access to certain files or systems. Hence, they need to be aware of email security and best practices such as recognizing phishing efforts, avoiding clicking on questionable links or attachments, and utilizing encryption as needed. The appropriate management and storage of documents are essential in office settings (Ezeonwurie & Ugwoke, 2021). Office managers should be instructed on how to classify papers depending on their sensitivity, as well as how to preserve and transmit them safely, whether electronically or physically.

Modern computers, mobile devices, and other technological tools are usually utilised by office managers to store the organisation's information and sensitive data. It is essential, therefore, to protect and secure these facilities and applications with the most recent encrypted hard drives, security software, and remote wipe capabilities in the event of loss or theft (Mallick & Nath, 2024; Somepalli, Tangella, & Yalamanchili, 2020). Office managers should be regularly trained on information security policies, procedures, and best practices. They must be aware of typical security dangers and how to mitigate them effectively. Office managers exhibit professional skills in managing the physical aspects of office tools like locking file cabinets safeguarding computers while not in use and preventing unwanted access to sensitive information in the cabinets. However, in the case of electronic, office managers would need to acquire the information technological skills (Okpokwasili, 2018) to enable them to manage sensitive information during phone conversations or video conferences and secure communication channels like encrypted messaging apps or secure video conferencing platforms. Also, their ability to regularly back up important information and have a well-defined plan for data recovery in case of incidents (Olaoye & Luz, 2024) like data breaches or system failures is imperative to ensure business continuity.

Office managers have access to a variety of sensitive information, such as operational plans, employee records, and financial data. To avoid unauthorized exposure and information abuse, it is important to implement adequate access controls that limit access exclusively to authorized persons. The unawareness of cybersecurity dangers and appropriate practices of office managers are other main factors. Constant training on security awareness can help educate employees on typical dangers, such as phishing schemes and social engineering assaults, and could help reduce the chance of human error resulting in security breaches (Andersson, Bjursell, & Palm, 2023). Office managers may interface with many vendors and suppliers who have access to sensitive data or deliver important services.

Security issues cannot be completely eradicated despite putting precautionary measures in place; however, they can be prevented. The creation and updating of incident response plans are one of the prompt and effective measures to tackle security breaches or data leakage issues. Organisations can also define employees' roles and duties, create communication channels and carry out frequent exercises to ensure the plan's efficacy. Addressing these information security concerns necessitates a proactive strategy, engagement with IT and security teams, and continual efforts to keep current on emerging threats and best practices in cybersecurity.

### ***Cybersecurity***

Cybersecurity refers to the administration of methods to prevent illegal access to networks, programs, and data (Thakur, 2024; Pietrek & Skelnik, 2023; Sheth, Bhosale, & Kurupkar, 2021). Their studies highlighted the need for better understandable language for non-experts by indicating that definitions of cybersecurity differ greatly in articulating its scope and activities. In essence, it involves the implementation of measures to ensure the confidentiality, integrity, and availability of information in digital environments. Another perspective on cybersecurity is provided by the technical and erratic character of current definitions (Pietrek & Skelnik, 2023). This covers a range of strategies, tools, and practices designed to reduce online threats. Therefore, effective policies are necessary to safeguard data in digital environments.

To grow customers' trust and confidence, organisations must embrace cybersecurity to enable them to manage and safeguard their brands in the digital era (Efijemue et al., n.d). Important services including healthcare, energy, banking, and communication are kept running smoothly by cybersecurity. Cybersecurity enables organisations to build resilience against sophisticated persistent attacks (Karangara & Manta, 2024). Cybersecurity is crucial for education and self-awareness. The entire security posture is improved by teaching people about cyber hazards, safe online conduct, and the need to adhere to security regulations. This reduces the likelihood that human error will result in security incidents (Andersson, Bjursell, & Palm, 2023).

The area of cybersecurity necessitates constant security measure improvement and adaptation in response to changing cyber threats. Organisations' responsiveness and effectiveness are important when implementing cybersecurity procedures (Efijemue et al., n.d). To achieve a more robust and adaptable cybersecurity posture, organizations must modify their cybersecurity strategy to include these cutting-edge technologies. Cybersecurity diverse role in the current environment, owing to the widespread adoption of digital technology and the growing complexity of cyber threats (Thakur, 2024). Sensitive data are to be protected and secured by all organisations and office managers must have an in-depth knowledge of the defensive measures.

### ***Cybersecurity Awareness***

Sharma and Thapa (2023) defined cybersecurity awareness as the level of recognition, comprehension, or knowledge regarding cybersecurity or information security topics. This awareness measures how well individuals and organizations grasp the characteristics and extent

of cybersecurity threats, as well as the strategies to reduce them. The critical role of understanding cybersecurity in contemporary organizations is underscored by the increasing risks associated with poor practices and lack of awareness (Victor-Mgbachi, 2024). In a more intricate digital landscape filled with advanced cyber threats, the need for both individuals and organizations to be aware and knowledgeable about potential dangers and best practices is essential.

Individuals' better understanding of multiple cyber threats (e.g. phishing attempts, viruses, unauthorised access, makes cybersecurity awareness effective in an organisation. This emphasizes the importance of safeguarding online assets, such as computer systems and sensitive data (Mallick & Nath, 2024; Victor-Mgbachi, 2024; Pietrek & Skelnik, 2023). Well-informed Individuals in cybersecurity have the skills to recognize potential threats, adopt safe practices, and defend themselves against cyber-attacks. This also emphasises the benefits of using unique, strong passwords, exercising caution when opening emails or files, and ensuring that software and systems are up to date (Riah et al., 2024). Those who possess cybersecurity knowledge understand the risks of sharing personal information online and are more resilient against online threats.

### ***Cybersecurity Practices***

Cybersecurity practices are the demonstration of effective and concrete strategies to detect, analyse, and mitigate possible cyber threats and vulnerabilities. They are also described as a collection of mechanisms, processes, and policies put in place to prevent unwanted access to networks, programs, and data (Thakur, 2024; Stransact, n.d). Cybersecurity practices are those policies, processes, and technologies used to safeguard networks, devices, programs, and data against illegal access, modification, or destruction (Efijemue, et al., n.d). In the face of emerging cyber threats, these procedures are dynamic and require ongoing adaptation to the changing threat scenario. A robust defence against potential security breaches depends on regular updates, evaluations and improvements. Cybersecurity practices' common and functional components are access control, network safety, endpoint security, data encryption, incident response, patch management, security audits, employee training, vulnerability monitoring, multi-factor authentication, and policy (Mayeke, 2024; Stransact, n.d.; Riah et al., 2024).

The need for cybersecurity regulations is paramount in the current digital era, as networked technology is heavily relied upon by individuals, organizations, and governments. Cybersecurity procedures are necessary to protect private data, thwart online threats, and guarantee the availability, integrity, and confidentiality of digital assets (Mayeke, 2024; Asif, 2023).



Cybersecurity procedures are critical to protecting sensitive and confidential information. This contains personal information, financial records, intellectual property, and other confidential information. Office managers must effectively ensure that unauthorized persons or employees cannot access or abuse their businesses' private information.

Office managers are subject to the same cybersecurity policies and procedures as other staff members. They are easy targets for hackers since they typically have access to private data, communication channels, and administrative systems. Hence, office managers should use strong and distinct passwords for their Internet storage accounts and refrain from using easily guessed passwords or using the same password for many accounts. They should also consider utilizing password managers to safely store and manage their credentials. Office managers must be well-equipped and educated to identify phishing emails and other social engineering techniques used by hackers to lure them into disclosing confidential information or installing malware. Effective hackers' techniques understanding will enable them to be cautious of the links to click on or files to download from unfamiliar or dubious sources.

Office managers often handle sensitive communication on behalf of their managers or colleagues. When office managers are sending confidential or sensitive material, they should use secure communication methods like encrypted email or secure chat services. To safeguard sensitive information's availability, confidentiality, and integrity, secretaries should handle it securely. This includes encrypting electronic files that contain sensitive data, securely discarding sensitive material when it is no longer needed, and carefully labelling and keeping physical records. Installation of antivirus software and security updates up to date on all office managers' devices, including computers, cellphones, and tablets is another technique for preventing hackers from gaining access. In addition, multinational organisations prevent unwanted access by activating device encryption and employ screen locks or biometric authentication.

### ***Cybersecurity Awareness and Practices and Information Security of Office Managers***

The increased global investment in information security is in reaction to the growing level of sophistication and complexity of cyber threats. Organisations that do not adequately examine their cybersecurity efforts risk incurring wasteful and costly spending. According to Bisogni (2020), a greater understanding of the socio-technical-economic complications surrounding information security is urgently required, necessitating both a rethinking of traditional cybersecurity challenges and exploring new and uncharted research avenues. Hence, office managers need to be

aware of cybersecurity. Cybersecurity awareness has an immediate effect on how office managers handle sensitive information, access systems, and adhere to security rules. Office managers, who are aware of cybersecurity threats, are more likely to observe security best practices, such as employing strong passwords, identifying phishing efforts, and reporting security events on time.

Office managers, as lifewires of their organisations, could shape the security culture within their organisations by demonstrating a commitment to cybersecurity awareness and practices. Office managers can serve as role models for other employees, and their behaviour regarding cybersecurity would set an example for others to follow. The main purpose of being aware and practising cybersecurity in an organisation is to train other employees on the importance of cybersecurity and reinforce the organization's commitment to protecting sensitive information.

It is important to note that office managers can be instructed to lead response efforts inside their companies in the event of a cybersecurity disaster, provided that they can effectively demonstrate their knowledge of cybersecurity and information security. Cybersecurity's high level of awareness boosts employees' knowledge and skills needed to address security challenges, including initiating incident response processes, liaising with stakeholders, and supporting recovery efforts (AL-Hawamleh, 2024). Cybersecurity maintenance requires continuous improvement in innovation and immediate response to emerging threats. Emphasizing cybersecurity procedures increases the likelihood that office managers would actively look for opportunities to improve, such as participating in training sessions, staying current on emerging threats, and implementing security improvements in their workplaces.

For office and information management, cybersecurity awareness and practices and information security have a symbiotic relationship in business operations and activities. An organization's environment is made more safe when managers place a high priority on cybersecurity awareness and practices. Similarly, an organization's culture of cybersecurity awareness is strengthened and supported by efficient information security processes. Office managers' information security and cybersecurity understanding and practices have a mutually beneficial connection. Information security procedures foster and maintain a cybersecurity awareness culture inside the organization, and office managers who place a high priority on cybersecurity help to create a more secure work environment. Office managers must have a solid awareness of cybersecurity given the rising incidence of cybercrimes and the digitally driven corporate environment of today to protect sensitive data in any organization.

## Methodology

A descriptive survey was used for the study. The population was 69 office managers selected from some private organisations in Lagos State. The targeted office managers were graduates of Office Technology and Management (OTM) department, Yaba College of Technology, Yaba, Lagos State between 2018 and 2022 and they are currently working as office managers in their various organisations. The total enumeration was used as sample size due to its fewness. The instrument was subjected to reliability test and the Cronbach's Alpha value was 0.781. The instrument used to obtain data from the targeted respondents was e-questionnaire designed by Google Form. The link was generated and sent to the WhatsApp platform of each of the OTM graduates' set between 2018 and 2022 (Full-Time and Part-Time). However, responses were obtained from fifty-seven (57) office managers. The obtained responses were analysed using the inferential statistics of multiple regression analysis at 0.05 significance level.

## Results

**Table 1: What are the information security needs of office managers in private organisations in Lagos State?**

S/N	Statements	Mean	StDev	Remark
1	Need to protect sensitive organisation's information from unauthorized access, misuse, and theft	3.66	1.91	Accepted
2	Need to safeguard organisation's network infrastructure from cyber threats such as phishing attacks, malware, and unauthorised access	3.73	1.93	Accepted
3	Need to prevent data leakage or interception in the organisation	3.93	1.98	Accepted
4	Need to manage user permissions and ensure only authorised employees have access to the information	3.68	1.92	Accepted
<b>Average mean and standard scores</b>		<b>3.75</b>	<b>1.94</b>	

**Source:** Field survey, 2024

In Table 1 above, most respondents agreed that information security need is important and the mean and standard deviation scores were 3.66 and 1.91 respectively. Meanwhile, some individuals still have different levels of concern. The mean and standard deviation of 3.73 and 1.93 justified the high level of information security needs among office managers of the organisations that were covered in this study. Most respondents agreed that data leakage or interception should be prevented while its mean and standard scores were 3.93 and 1.98 respectively. With mean and standard deviation ratings of 3.68 and 1.92, respondents agreed that user rights should be controlled efficiently. In all, the average mean and standard deviation scores were 3.75 and 1.94 which affirmed that respondents generally agreed on the relevance of these cybersecurity demands

in the organisation. Though, there is a variety in replies, as a few of them have varying levels of knowledge, comprehension, or concern for information security needs.

**Table 2: What is the level of cybersecurity awareness of office managers in private organisations in Lagos State?**

S/N	Statements	Mean	StDev	Remark
1	I have higher cybersecurity awareness due to stringent regulations and the sensitive information I handle	3.56	1.89	Accepted
2	My cybersecurity awareness level is regularly enhanced by training programmes	3.38	1.84	Accepted
3	My cybersecurity awareness is aroused by the high-profile cyberattacks or data breaches	3.65	1.91	Accepted
4	I place top priority on cybersecurity	3.42	1.85	Accepted
<b>Average mean and standard scores</b>		<b>3.50</b>	<b>1.87</b>	

**Source:** Field survey, 2024

Table 2 shows that office managers in private firms in Lagos State have a modest degree of cybersecurity knowledge. The mean and standard deviation scores of 3.56 and 1.89, respectively, indicate that the majority of respondents believe that legislation and the type of the information they manage impact their level of awareness. The majority of respondents [mean and standard deviation scores of 3.38 and 1.84] believe that having a positive attitude on the success of training programs increases cybersecurity awareness; nevertheless, some disagree. The mean and standard deviation scores were 3.65 and 1.91, respectively. This shows that respondents are especially sensitive to external stimuli like high-profile cyber events, which encourages people to become more conscious of cybersecurity risks. The mean and standard deviation ratings of 3.42 and 1.85 suggest that cybersecurity is a top priority for the majority of respondents. The average mean and standard deviation scores were 3.50 and 1.87, indicating a consistent level of agreement among respondents on cybersecurity awareness. The replies for each statement show that most respondents usually accepted, validating the favorable view of cybersecurity knowledge among office managers in private firms in Lagos State.

**Table 3: What are the cybersecurity practices of office managers in private organisations in Lagos State?**

S/N	Statements	Mean	StDev	Remark
1	I use a strong and unique password to safeguard sensitive information	3.32	1.82	Accepted
2	I update cybersecurity software and applications regularly to protect against known exploits and vulnerabilities	3.46	1.86	Accepted
3	I use encrypted communication channels to safeguard sensitive information from eavesdropping or interception	3.59	1.89	Accepted
4	I regularly use strong endpoint security measures to prevent unauthorised access and malwares	3.68	1.92	Accepted
<b>Average mean and standard scores</b>		<b>3.51</b>	<b>1.87</b>	

**Source:** Field survey, 2024

In Table 3, the first statement's mean and standard deviation were 3.32 and 1.82 respectively. This shows a generally positive attitude towards the use of strong and unique passwords for safeguarding sensitive information. Statement 2 outcomes were 3.46 and 1.86 for both mean and standard deviation scores; these results show that respondents are proactive in updating their cybersecurity software and applications to mitigate known vulnerabilities and exploits, which is crucial for maintaining security. The mean and standard deviation scores were 3.59 and 1.89; these outcomes show a positive practice of using encrypted communication channels to protect sensitive information from unauthorized access, eavesdropping or interception. Statement 4 has the highest mean and standard deviation scores were 3.68 and 1.92 respectively; these results indicate that most respondents prioritize the implementation of strong endpoint security measures, such as firewalls and antivirus software, to prevent unauthorized access and malware infections. In all, the average mean and standard deviation scores were 3.51 and 1.87 respectively and that show a consistent level of agreement among respondents regarding their cybersecurity practices.

**Hypothesis 1: There is no significant combined influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State.**

**Table 4: Summary of Regression for a combined influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State.**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.714	0.510	0.504	0.902

a. Predictors: (Constant), *Cybersecurity Awareness and Practices*

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.611	2	24.81	33.523	.000 <sup>b</sup>
	Residual	40.698	55	0.740		
	Total	90.309	57			

a. Dependent Variable: *Information Security*

b. Predictors: (Constant), *Cybersecurity Awareness and Practices*

Table 1 shows that the R value as 0.714 which indicates a moderately strong positive correlation among the tested variables. The R<sup>2</sup> value of 0.510 signifies that about 51% of the variance in the information security could be explicated by cybersecurity awareness and practices. The Adjusted R<sup>2</sup> value of 0.504 implies that additional predictors could not have substantially improved the model's explanatory power. The model appears that considerable joint influence of cybersecurity

awareness and practices as seen in Table 1 significantly contribute to a relatively change in Information Security of office managers.

The ANOVA result from the regression analysis demonstrates that cybersecurity awareness and practices significantly influence information security of office managers, F-value =33.523, and the p-value is very low (0.000), indicating that the regression model is statistically significant at the level of 0.05. Thus, the null hypothesis is rejected, and alternative accepted that there is a combined influence of cybersecurity awareness and practices significantly influence information security of office managers.

**Hypothesis 2: There is no significant relative influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State.**

**Table 5: Summary of Regression for a relative influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.611	14.806		2.675	0.01
Cybersecurity Awareness	0.170	0.055	0.115	3.101	0.00
Cybersecurity Practices	0.084	0.020	0.064	4.134	0.02

Dependent Variable: *Information Security*

This table provides information on the coefficients of the regression model. the intercept represents the value of information security when cybersecurity awareness and practices are zero. in this case, the intercept is 39.611. the results signify that when cybersecurity awareness and cybersecurity practices are both zero, information security would be approximately 39.611. as cybersecurity awareness and cybersecurity practices coefficients are 0.170 and 0.084 respectively, there is a change in information security to be a one-unit increase in cybersecurity awareness and cybersecurity practices simultaneously. the result proved that both cybersecurity awareness and cybersecurity practices have statistically significant positive effects on information security among office managers in private organisations in Lagos State. thus, the null hypothesis is rejected.



## **Discussion of Findings**

Hypothesis 1 explained the combined influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State. The result [ $R=.714$ ;  $R^2=.510$ ; Adj.  $R^2=.504$ ;  $F\text{-value}=33.523$ ] of multiple regression analysis revealed that both cybersecurity awareness and practices have a favourable and substantial influence on information security of office managers in private organisations in Lagos State. Efijemue et al. (n.d) affirmed this outcome that organisations that demonstrate a commitment to cybersecurity build trust with customers, partners, and stakeholders, allowing them to manage and protect their brands in the digital age. In addition, Riah et al. (2024) asserted that cybersecurity awareness enables individuals to understand significance of using strong and unique passwords, exercising caution when interacting with suspicious links or attachments, and keeping software and systems updated and thus, sensitive information is secured and protected.

Hypothesis 2 examined a relative influence of cybersecurity awareness and practices on information security of office managers in private organisations in Lagos State. The result showed that cybersecurity awareness contributes 17% [ $\beta_1 =.116$ ;  $p\text{-value } 0.00 < 0.05$ ]; cybersecurity practices contribute 8.4% [ $\beta_2 =.064$ ;  $p\text{-value } 0.02 < 0.05$ ]. The result revealed that cybersecurity awareness has the strongest sub-metric that contributed immensely to information security of office managers in private organisations in Lagos State. In line with this result, Sharma and Thapa (2023) stated cybersecurity awareness empowers individuals to recognize potential cyber threats, such as malware, phishing, and social engineering attacks. Based on the findings, it is obvious that office managers are awareness of the cyber-attacks, online fraudulent activities, hacking operations, and so on. Mallick and Nath (2024), Victor-Magbachi (2024), and Pietrek and Skelnik (2023), all agreed that effective cybersecurity awareness is when individuals are informed of the spectrum of threats like malware, phishing, and hacking, and emphasises the importance of safeguarding digital assets, such as sensitive information and systems.

However, being informed about the cyber threats and attacks are not enough; employees need to understand how to protect and secure sensitive information of their organisations especially office managers who are the information custodians, information bearers, and life-wires of every organisation (Durojaiye, 2023; Asogwa & Agusiobo, 2022; Ezeonwurie & Ugwoke, 2021). The result of cybersecurity practices 8.4% contribution to information security proved office managers may be aware of the threats but they are not practicing how to protect and secure organisation's information. According to Andersson, Bjursell, and Palm (2023), regular security awareness

training to educate employees on typical dangers, such as phishing schemes and social engineering assaults, could help reduce the chance of human errors that could result in security breaches. After being trained, office managers can effectively demonstrate the skills acquired to safeguard sensitive and confidential information of the organisation. Cybersecurity practices as a collection of mechanisms, processes, and policies put in place to prevent unwanted access to networks, programs, and data (Thakur, 2024; Stransact, n.d). To constantly preventing unwanted individuals (external and internal customers) to gain access to vital documents online or through the computer systems, office managers must consistently improve their cyber and information security skills from time to time since learning is a continuous process.

## **Conclusion**

The study provided more insight on the significance of cybersecurity awareness and practices for information security among office managers at work. Several important findings emerged from a review of survey results and interactions with office managers, emphasizing the importance of proactive cybersecurity awareness and practice programs. The study revealed a significant positive relationship between cybersecurity knowledge and the implementation of security measures among office managers. Those who were more knowledgeable were more inclined to adhere to security protocols and take actions to mitigate risks. Office managers with a deep understanding of cybersecurity principles and best practices were better equipped to safeguard sensitive data and prevent potential threats. Their proactive approach results in a stronger information security posture inside the organisation. Despite the overall positive results, the survey identified specific difficulties and knowledge gaps among office managers, particularly in password management, phishing awareness, and incident response. The gaps could be addressed by organising relevant training programs for those concern especially information custodians (office managers) in order to improve organisational security. Effective communication channels and regular training programs were shown to have a significant influence on spreading cybersecurity awareness and practices among office managers. Clear communication of security regulations, procedures, and updates, along with ongoing training sessions, developed a culture of security awareness and accountability.

## Recommendations

Based on the findings and conclusion of this study, it was recommended that management should invest heavily in cybersecurity training programmes for office managers that would cover data protection best practices, password hygiene, phishing awareness, and incident response protocols and other current related topics; they should promote cybersecurity best practices by regularly creating information security awareness campaigns among office managers and other employees; they should also provide office managers with modern resources that would help them to prevent cyber-attacks and address cybersecurity issues and queries; they should ensure office managers are held reliable for not following specified cybersecurity and information security rules and procedures of the organisation; they should improve collaboration and communication between office managers and IT personnel to successfully tackle cybersecurity concerns; establish measurements and key performance indicators (KPIs) to track office managers' efficacy on cybersecurity awareness and practices and information security. And office managers should continually learn more about cybersecurity crimes and how to secure information using the information system; set an example by prioritizing information security in their daily practices and interactions with other employees; they should immediately report any suspicious cyber-attacks, or abnormalities they may encounter while carrying out their duties; they should also choose strong and unique passwords for their Internet storage accounts and avoid using readily guessable passwords or repeating passwords across several accounts; and they should endeavour understand hackers' techniques and not to click links or download files from unfamiliar or dubious sources.

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## **Roles of Skill Development in a Digital Economy**

<sup>1</sup>OGBEIDE-AKUGBE, Mercy, <sup>2</sup>IREZIA, Vivian Ngozi, & <sup>3</sup>MOMOH, Amina Lillian  
08033503458; akugbemercy282@gmail.com, 08162177120; ngoziiredialove@gmail.com

Department of Office Technology and Management,  
School of Information and Communication Technology,  
Auchi Polytechnic, Auchi, Edo State.  
08060550525; lillianzadok@yahoo.com

### **Abstract**

*The paper is aimed at assessing the roles of skill development in a digital economy. Skill development is gaining, improving, and increasing a diverse set of abilities and competencies. It entails the purposeful and constant effort to develop expertise, knowledge, and skills in specific areas to suit the needs of one's job. digital economy encompasses all economic activities that are conducted through digital technologies and the internet. it includes various aspects such as e-commerce, digital marketing, online advertising, digital payments, remote work, and the development of digital platforms and services. Digital skill development refers to using technological devices to obtain information via the Internet. It can also apply to the abilities necessary to operate digital media, mobile phones and computers. the importance of skills development is that it can provide decent job opportunities for unemployed youths of different gender groups. It also creates jobs without borders as it enables people to work from anywhere, and with flexible working hours. It was concluded that skill development is absolutely crucial in a digital economy. By continuously learning and upgrading our digital skills, we can unlock a world of opportunities, stay adaptable to new technologies, boost productivity, and foster innovation. It was suggested amongst others that individual should take advantage of online platforms to learn digital skill courses and digital skills should encourage in higher institutions and by the government.*

**Keywords:** Digital Economy, Digital Transformation, Skill Development

### **Introduction**

Digital skills have become vital because all sectors are now digitalized. Youths of the digital era must master Information and Communication Technology (ICT) skills to thrive in the virtual economy and advance in their current positions since businesses consider digital talents when employing workers (Fau & Moreau, 2018). Digital skill development refers to the ability to use digital technologies to obtain online material. It may also apply to the abilities necessary for using computers, digital media, and cell phones. In general, digital skill development can lead to excellent career prospects for jobless adolescents of all genders. It also generates employment without boundaries by allowing individuals to work from anywhere, with flexible working hours. Many wealthy nations, anticipating future developments, have initiated a methodical transition to the establishment of a digital economy. The United States and China launched the first such scheme, and both nations are now pioneers in the growth of the digital economy. England, the



European Union, Australia, and other countries supported the relevant projects. Currently, projects promoting the digital transformation of the economy are broadly distributed throughout various countries (Glotko, 2020).

### **Concept of Skill**

Skill is an ability we gain through training and practice. We use motor skills to perform complex movement and serial behaviour, smoothly, quickly and precisely. It is the capability that enables a person to achieve this particular goals. It is regarded as the ability or expertise that a person possesses in performing a particular task or activity effectively. Skills can be acquired through learning, practice, and experience. They are typically divided into two categories: hard skills, and soft skills (Putra et al., 2020). Hard skills are unique technical or specialized abilities that are usually measured and taught. Hard abilities include programming, data analysis, accounting, graphic design, and operating machinery. These talents are frequently obtained through formal schooling, training programs, or certificates. Soft skills are non-technical abilities that govern how people connect, solve issues, and traverse the workplace (Amin, Jwasshaka, & Latif, 2021). These skills are frequently transferable between different positions and sectors. Soft talents include communication, collaboration, flexibility, leadership, time management, and critical thinking.

In today's digital economy, both hard and soft talents are vital. Hard skills are required to do specialized jobs connected to digital technologies, such as coding, digital marketing, and web building. These technological abilities allow people to navigate and flourish in the digital economy. Nosov (2019) described skills as the abilities or talents that individuals develop via study, practice, and experience. They allow us to execute specialized activities or solve difficulties efficiently. Skills are classified into three types: technical skills (e.g., graphic design, programming), soft skills (e.g. teamwork, communication), and digital skills (e.g. digital marketing, coding). Personal development, professional achievement, and adjusting to the ever-changing demands of today's society all need skills. For example, essential principles such as assuring the country's growth plan of ranking among the top 25 most competitive countries were first introduced to the public through these communications. Indeed, putting strategic aims into reality is a very essential responsibility allocated to the government.

### **What is Skill Development?**

Skill Development is gaining, improving, and increasing a diverse set of skills and competencies. It entails an intentional and constant effort to acquire information, skills, and capacities in certain

areas to satisfy the demands of one's job or to seek personal and professional development. Skill development may include both technical abilities like programming, data analysis, and graphic design, as well as soft skills like communication, leadership, and problem-solving. It may be obtained through a variety of methods, including formal education, training programs, on-the-job experience, self-study, and mentorship. Individual skill development is critical for adapting to changing work settings, increasing employability, and achieving professional goals. It also helps organisations succeed by developing a qualified and competent staff. (Carayannis et al., 2023).

Competitive advantages are based on resource elements such as natural, labour, financial, infrastructural, and fixed assets. Access to timely information, as well as the availability of highly qualified personnel, indicated in this list, are critical for small enterprises operating in the digital economy. Digitalization of contact between the state and business aimed at decreasing transaction costs for businesses and enhancing the transparency of decisions made by governmental agencies and organisations. Marking of manufactured and imported goods, along with the creation of a platform for the introduction of a unified information environment, and the issuance of electronic invoices, will create an ecosystem aimed at ensuring the restriction, prevention, and suppression of unfair competition; production, confirmation of the authenticity of goods, circulation of goods, quality assurance and prices of purchased goods, combating illegal import, and including counterfeit (Mynenko & Liulov, 2022; Gawer, 2022). One of the critical criteria for the effective skill development of the major areas of human activity in the digital economy is the establishment of an adequate institutional framework. Personnel and knowledge are two of the most important institutions that foster the effective growth of the digital economy.

Nowadays, the transformation in the country's economy has an impact on all stages of elementary, secondary, vocational, and pre-university education, as well as future skill development. This is closely tied to the quality of information acquired by pupils. Literacy is one of the most frequently highlighted topics with digital technology and skill development. This literacy must begin from the beginning. The usage of digital technology is increasing in the school system.

There is need for educational sector to have the following;

- i. Each educational institution has access to the Internet and individual sites in accordance with state requirements.
- ii. General education initiatives cover computer science, ICT, and digital economy training.

There are some disadvantages when it comes to skill development

- i. Educational programs lack training and are not aligned with the digital economy.
- ii. Personnel shortages exist at all levels of education.
- iii. Final certification procedures are insufficient for quantitative educational activities and are not integrated with the digital environment.

It is necessary to create an atmosphere that allows the "creation" of a new type of natural leaders, starting with higher education institutions - creativity, innovative, possessing the necessary expertise, skills, and abilities, quickly adapting to environmental shifts, able to take on tasks of various nature, and concentrating on technological advances.

### **Challenges of Digital Skills**

As elegant digital abilities become increasingly vital for employment, some analysts predict a "talent gap" between people with and without advanced digital competencies. The increased need for ICT-qualified labour is worsened by a variety of socioeconomic disparities, including many people's lack of home Internet connection. Even before the COVID-19 epidemic, there were digital skills gaps in both developed and developing countries, with varying income levels and job opportunities for people with basic, intermediate, and advanced abilities. Green and digital transitions might produce over 60 million new employments globally over the next five years, with an estimated 1 million in the EU by the end of the decade (European Commission, 2020). The APEC (Asia-Pacific Economic Cooperation) closes the digital skills gap survey shows 75 per cent of respondents—including employers, government officials, and academics—noting a significant skills mismatch, while more than half say government agencies have a weak understanding of the digital skills landscape.

ITU estimated 37% of the world's population would still be without internet access by the end of 2021. In developing nations, around 43% of the population is offline, increasing to 73% in the world's 42 least developed countries (LDCs). This is in sharp contrast to the highly digitalized economies and cultures seen in middle- and high-income nations. According to a joint UNICEF/ITU assessment on how many children and adolescents have internet connection at home, more than two-thirds of the world's school-age girls and boys aged 3-17 years (1.3 billion children) and 63% of young aged 15-24 years (760 million youth) do not have access to the internet. Globally, 2.2 billion children and young people aged 25 and under lack access to the

Internet at home. In LDCs, just 22% of households have Internet connectivity at home, compared to 86% in affluent nations.

People's inability to use online platforms and resources to their full potential is one of the most significant hurdles to Internet adoption. The digital gap mirrors other existing skill and education disparities amongst populations. Typically, more disadvantaged groups, such as women and girls, have lower skill and education levels. Many low-income nations have poor education levels, which leads to lower reading, writing, and language skills. The use gap - that is, the difference between people's access and actual use of the Internet - is greatest in LDCs. The digital skills difference also manifests as a gender disparity. The gender disparity among Internet users is most pronounced in low-income and least developed nations. In those nations, girls and women frequently have lower levels of education or digital illiteracy.

### **An Overview of Digital Skill**

As businesses continue to use developing technology to improve their business procedures, employees who understand and have expertise with digital tools may find it simpler to accomplish their job obligations. A general awareness of fundamental technology to execute job duties, as well as talents particular to a sector, such as software development, are examples of digital skills. Learning about digital skills may help perform numerous tasks and enhance productivity at work. Many digital economy projects are being employed in many nations (the United States, Austria, Australia, England, and so on), with a focus on social directions such as "digital medicine" and "smart city." The execution of various social initiatives necessitates diverse planning and presents unique challenges. The digital economy, within the framework of modernization of traditional production industries and services, end-to-end penetration of technological advances and digitalization of economic processes, changes in the framework of usage will become the basis for the formation of new markets and new market conditions, as well as new approaches to forecasting and management decision.

The digital economy provides new prospects for company. To survive and thrive in the new climate, businesses must dramatically restructure their business operations. Today, the digitization process impacts every country in the globe. In addition, each country sets its own goals for digital growth. More than 15 nations are now launching national digitization initiatives. Singapore, China, South Korea, New Zealand, and Denmark are those countries leading the way in digitalizing their national economies. China's "Internet Plus" initiative mixes digital and

conventional businesses, Canada establishes an ICT hub in Toronto, and Singapore constructs a "Smart Economy" driven by ICT. South Korea's "Creative Economy" initiative focuses on human capital development, entrepreneurship, and the diffusion of ICT successes, whereas Denmark focuses on the digitization of the public sector (State program, 2017).

### **Digital Economy Explained**

The digital economy encompasses all economic activities that are conducted through digital technologies and the internet. It includes various aspects such as e-commerce, digital marketing, online advertising, digital payments, remote work, and the development of digital platforms and services (Carayannis et al., 2023). E-commerce, or electronic commerce, is a significant component of the digital economy. It involves buying and selling goods and services online. With the rise of online marketplaces like Amazon, eBay, and various other e-commerce platforms, people can conveniently shop for products from the comfort of their homes and have them delivered right to their doorstep. (Ajibike, 2019).

Digital marketing and online advertising play a crucial role in the digital economy as well. Companies leverage digital channels like social media, search engines, and email marketing to promote their products or services to a wider audience. This enables businesses to reach potential customers more effectively and efficiently compared to traditional advertising methods. Digital payments have also revolutionized the way we transact online. With the advent of mobile payment systems and digital wallets, such as Apple Pay, Google Pay, and PayPal, it has become easier and more secure to make online purchases and transfer money digitally. (Kayode, Arome, & Silas, 2014).

The digital economy's development has an impact on the state's work with small and medium-sized firms (Andriushchenko et al., 2020). The development of the digital economy has a snowball effect since it modifies customer tastes and behaviour while also affecting the qualification of hired human resources. These interrelated processes contribute to more effective use of strategic resources and an overall enhancement in the competitiveness of businesses. Quantitative Economics in state control of the economic sector, planning, forecasting, and scientific, and technical advancement, are critical to the microeconomic significance of small and medium-sized firms' successes in the economy. The digital economy has changed established sectors and opened up new opportunities for businesses and individuals globally. It has enabled worldwide connectedness, innovation, and economic progress.

## Digital Skills

Gaziz (2020) outlines the following digital skills that could be developed by individuals:

- i. Basic Computer Literacy
- ii. Cloud Computing
- iii. Coding and Programming
- iv. Content Creation
- v. Cybersecurity Awareness
- vi. Data Analysis and Interpretation
- vii. Data Analysis
- viii. Digital Communication
- ix. Digital Marketing
- x. Graphic Design
- xi. Social Media Management
- xii. Website Development and Design

**Basic Computer Literacy:** This skill involves being comfortable with using computers, understanding operating systems, navigating through files and folders, and using basic software programs like word processors and spreadsheets.

**Cloud Computing:** This skill revolves around using cloud-based platforms and services to store, access, and manage data remotely. Cloud computing offers benefits like scalability, flexibility, and cost-efficiency. It includes understanding cloud storage, collaboration tools, and cloud-based software applications. Popular cloud platforms include Amazon Web Services (AWS), Microsoft Azure, and Google Cloud.

**Coding and Programming:** This skill focuses on writing code to create software applications, websites, or automate tasks. It involves using programming languages like Python, Java, or JavaScript to develop algorithms and solve problems. Programming skills can open up a wide range of opportunities in software development, automation, and data analysis, learning how to code and program can open up a world of possibilities. Language programs, such as JavaScript or Python, can gradually build individuals' skills and help them to create websites, apps, or even games.

**Content Creation:** Developing skills in content creation involves creating compelling and relevant content for various platforms, such as blogs, videos, podcasts, or social media. You can learn about storytelling, writing, video editing, or audio production to enhance your content creation abilities.



**Cyber security Awareness:** This skill is all about understanding and practicing online security measures to protect sensitive and personal information e.g. password management, recognition and avoidance of phishing attempts, data privacy and so on. By- staying vigilant and implementing cybersecurity best practices, you can help safeguard your digital presence.

**Data Analysis and Interpretation:** This skill revolves around understanding and analyzing data using digital tools. It includes working with spreadsheets, databases, and data visualization software to gather insights and make informed decisions.

**Data Analysis:** Learning how to analyse and interpret data can provide valuable insights for decision-making. You can learn tools like Excel, Google Analytics, or data visualization platforms to develop your data analysis skills.

**Digital Communication:** This skill focuses on effectively communicating through digital channels like email, instant messaging, and video conferencing. It includes writing professional emails, using appropriate etiquette, and conducting virtual meetings.

**Digital Marketing:** Understanding digital marketing strategies and techniques can help you promote products or services effectively. You can learn about search engine optimization (SEO), email marketing, paid advertising, and content marketing to enhance your digital marketing skills. This skill involves promoting products or services using digital channels. It includes various strategies such as search engine optimization (SEO), content marketing, social media advertising, and email marketing. Digital marketers aim to reach their target audience effectively, increase brand awareness, and drive customer engagement and conversions.

**Graphic Design:** Developing skills in graphic design can help you create visually appealing content for websites, social media, or presentations. You can learn tools like Adobe Photoshop or Canvas to enhance your design skills.

**Social Media Management:** With the rise of social media, having skills in managing and growing online communities can be valuable. You can learn how- to create engaging content, analyse metrics, and develop strategies to reach and engage with your audience. This skill involves effectively using social media platforms for personal or business purposes. It includes creating engaging content, managing online communities, and utilizing analytics to measure performance.

**Website Development and Design:** This skill involves building and designing websites from scratch or using pre-existing templates. It requires knowledge of coding languages like HTML, CSS, and JavaScript. With these languages, the structure, style, and interactivity of a website could be created. Additionally, using content management systems (CMS) like Word Press can simplify the process of website creation and management.

## **Roles of Skill Development in a Digital Economy**

Skill development plays a crucial role in a digital economy. In today's rapidly evolving digital landscape, new technologies and innovations are constantly emerging. To keep up with these changes and thrive in a digital economy, individuals and organisations need to continuously develop and upgrade their skills. Below are skill development benefits in a digital economy according to (Fedulova, 2019).

**Employment Opportunities:** The digital economy offers a wide range of job opportunities. By developing relevant digital skills, individuals can increase their employability and access a broader pool of job openings. Skills such as coding, data analysis, digital marketing, and cyber security are in high demand and can lead to lucrative career prospects.

**Innovation and Adaptability:** Skill development fosters innovation and adaptability. As technology advances, new skills are required to leverage these advancements effectively. By continuously learning and developing digital skills, individuals can stay ahead of the curve, adapt to changing technologies, and contribute to innovation within their organisations.

**Increased Productivity:** Digital skills enable individuals to work more efficiently and effectively. For example, proficiency in using productivity tools, project management software, or data analysis platforms can streamline workflows and improve productivity. By developing these skills, individuals can enhance their performance and contribute to the overall productivity of the digital economy.

**Entrepreneurship and Digital Transformation:** Skill development is crucial for entrepreneurs and businesses undergoing digital transformation. Understanding digital marketing, e-commerce, social media management, and other relevant skills can help businesses reach wider audiences, increase sales, and stay competitive in the digital marketplace.

**Bridging Digital Divide:** Skill development plays a vital role in bridging the digital divide. By providing individuals with access to digital skills training, we can empower marginalized communities and ensure that no one is left behind in the digital economy. This inclusivity promotes equal opportunities and socioeconomic development.

**Lifelong Learning:** The digital economy is characterized by continuous change and innovation. Skill development encourages a mindset of lifelong learning. By embracing continuous learning, individuals can adapt to new technologies, acquire emerging skills, and remain relevant in the digital economy throughout their careers.

## Conclusion

In conclusion, skill development is absolutely crucial in a digital economy. By continuously learning and upgrading our digital skills, we can unlock a world of opportunities, stay adaptable to new technologies, boost productivity, and foster innovation. Skill development empowers individuals to thrive in the digital marketplace, bridge the digital divide, and contribute to the overall growth of the digital economy. So let us embrace lifelong learning and keep developing those skills to make the most of the digital era. Every activity that thing that is currently done today is geared toward the future. All education, health care, economic, and political changes are intended to better our youth's futures. As our economy increases, so does the standard of living for the people. Youth creative entrepreneurship as a national economic modernization strategy. In the process of modernizing the country's economy, there is a qualitative shift to the "knowledge economy" paradigm, in which innovations replace raw commodities, which were formerly the major component of industrialization. However, even though the letter was sent yearly, the duties stated in it, in most situations, will not impact the scale of the year.

## Suggestion for Way Forward

To develop the digital skills, individuals should take advantage of online platforms to learn digital skill courses. Youths should also attend webinars and workshops to know the latest trend. People who have the skills should apply it in the real world and create their own digital content. Government should encourage digital skills in all her institutions and they should set strategic goals and show ways for implementation that would help individuals to positively achieve them.

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## **Impact of Constant Curriculum Review on Job Effectiveness of OTM Graduates in the 21st Century Office (A Study of Secretaries in University of Ibadan)**

**<sup>1</sup>OGUNTAYO, O. O., <sup>2</sup>FASIPE, O. O., & <sup>3</sup>WAHEED, B.A.**

<sup>1,2</sup>The Polytechnic, Ibadan, <sup>3</sup>University of Ibadan

<sup>1</sup>oguntayoomotayo2018@gmail.com; <sup>2</sup>yemfash1971@gmail.com;

<sup>3</sup>waheedbasitadebayo@gmail.com

### ***Abstract***

*In today's rapidly evolving office landscape, OTM Graduates (secretaries) play a pivotal role undergoing profound transformations. Technological advancements have redefined the tools and skill set necessary for success in this critical support role. In the modern business world, efficient decision-making hinges on timely and precise information, making the secretary's role indispensable. Hence, the study examined the impact of constant curriculum review of job effectiveness of OTM graduates in the 21st Century Office. The study adopted the correlational research design. The population was 84 secretaries and sample size of 70 secretaries using the Taro Yamane formula. The study used questionnaire of 4 scale of Likert to elicit data and then utilize inferential statistical analyses such as t-tests and ANOVA. The results [n=70, r=0.979, p-value=0.000]. The study revealed that the correlation is statistically significant at the 0.00 level, meaning that the observed relationship between constant curriculum review and job effectiveness is highly unlikely to have occurred by chance. In conclusion, this work underscores the urgent necessity of modernizing OTM to produce graduates proficient in modern office technologies and equipped with soft skills to excel in the dynamic 21st-century workplace. It was recommended that there should be a closer partnership between educational institutions and employers to ensure graduates are well-prepared for the modern workforce.*

**Keywords:** Constant Curriculum Review, Job Effectiveness, OTM Graduates, 21<sup>st</sup> Century Office

### **Introduction**

Several transformations have occurred in both private and public offices regarding the roles and responsibilities of secretaries. The machinery and devices used for information production, duplication, and storage have significantly evolved to keep pace with the swiftly evolving world of technology. The success of any organisation heavily depends on its secretary, whose role, though supportive, plays a critical role in achieving organisational goals and objectives. In modern organisations, the use of cutting-edge technological devices is a key distinguishing factor. Organisational change is driven by both internal and external factors, including market competition, consumer behavior, technological advancements, and quality management. In today's business landscape, every office relies on accurate and timely information for swift decision-making (Akpomi & Ordu, 2009). In the realm of Modern Office Technology, the

secretary's role assumes paramount importance in an organisation's growth and progress, necessitating technological and human support within the workplace.

The effective performance of a professional secretary hinges on their mastery of office equipment, knowledge, and skills. The skillset and responsibilities of traditional secretaries demanded a high level of physical and mental aptitude. The introduction of modern technologies and software has alleviated the arduous tasks that were once associated with the role of a secretary, spanning activities like production, replication, storage, and retrieval, among others. Technological advancements, most especially the embracing of computers and software programs, have streamlined the work of professional secretaries. This includes the use of various machines such as printers, fax machines, pen drives, cell phones, photocopiers, telex systems, and the internet. Proficiency in these requisite knowledge and skills has made the role of a secretary increasingly challenging. While technological improvements have made the secretary's work more efficient, they have also necessitated the acquisition of additional knowledge and skills beyond the traditional scope of a professional secretary. As a result of these technological advancements, it is expected that the secretary's tasks will become more manageable. However, these new challenges brought about by technology demand a continuous commitment to learning and development to stay up-to-date with evolving practices and to effectively meet the organisational objectives.

### **Development of OTM**

In the past, what is now known as Office Technology and Management (OTM) used to be called secretarial studies. Its roots can be traced back to ancient Greece when clay technology was in use. During that era, secretarial education was quite rudimentary. In both educational institutions and workplaces, the primary tools used for teaching and practicing this profession were locally crafted and operated by hand. Consequently, office correspondence primarily involved handwritten documents, and specific copy clerks were hired and trained for these handwritten tasks. However, a significant milestone in the development of secretarial education, which eventually evolved into OTM as we recognize it today, occurred in the 18th century with the introduction of the typewriter (Isiyaku, 2005).

OTM is one of the elective academic domains offered within the business education programs at Nigerian tertiary institutions. This course was previously known as secretarial education/studies as mentioned previously (Kingdom & Maekae, 2013). Consequently, Fafunwa (1974) observed that the demand for secretaries and secretarial education in Nigeria became evident in the early



1970s, necessitating the training of secretarial candidates abroad. However, by the 1980s, numerous tertiary institutions began to offer this course, with the University of Nigeria, Nsukka (UNN), being the first university in West Africa to introduce it, followed by Ahmadu Bello University (ABU) (Osuala, 2004). Currently, numerous tertiary institutions and universities in Nigeria offer this course. Starting from its roots in handwriting and manual typewriters, secretarial education has transformed into a crucial platform for the integration and utilization of computers and information technologies worldwide. Nevertheless, a pressing question arises: To what extent are computers and ICTs effectively integrated into the teaching and practice of OTM in Nigeria today?

Globally, Office Technology and Management (OTM) has experienced a significant evolution as a subset of business education, notably with the integration of Information and Communication Technologies (ICTs) into the educational framework. Existing literature highlights a prominent trend in OTM worldwide: the continual adaptation of program scopes with the objective of addressing issues related to global responsibility and sustainability. This often involves the inclusion of new ICT modules in existing programs (Tilbury & Ryan, 2011). Consequently, the curriculum of OTM programs has evolved dramatically on a global scale, both in theory and practice. The focus of the curriculum has shifted from teaching typewriting, shorthand, and machine transcription to delivering courses related to ICT (Mountjoy, 2007; Isiyaku & Fidelia, 2020). Regrettably, despite the global shifts in OTM education, Nigerian tertiary institutions have retained a traditional and outdated approach, using obsolete technologies (Asogwa, 2013; Isiyaku, Ayub & Kadir, 2018; Isiyaku, 2020).

### **The Foundations for Curriculum Revision**

Curriculum, as described by Ojukwu and Njoku (2008), forms the core and lifeblood of all educational endeavours. Nevertheless, the definition of curriculum has been a subject of widespread confusion, with diverse interpretations and flawed implementations. Experts in curriculum development have not yet reached a consensus on its precise technical purpose. As a result, curriculum reform is fundamentally a process involving the modification or reassessment of current curriculum content. The aim is to incorporate or eliminate specific elements or modules in alignment with identified needs or societal demands for enhancement (Ojukwu, 2008, as cited in Olaitan & Ali, 1997).

Curriculum revision becomes imperative when a curriculum cycle reaches its conclusion and feedback highlights the inevitabilities for such an overhaul. According to Ohakwe & Njoku (2009), the curriculum, much like a constitution, is not a fixed entity; rather, it is adaptable and flexible in terms of application, administration, and change. Its nature is primarily influenced by the environment and technological advancements. Developing a curriculum, therefore, is an ongoing and dynamic process. Curriculum reforms are typically implemented as a reaction of popular demands and perceived societal needs. In instances where there is a perceived dissatisfaction with an existing curriculum or when our understanding of the learning process evolves, the imperative for evaluation becomes evident. This approach, as elucidated by Ohakwe & Njoku (2009), corresponds with the UNESCO-Nigeria project's endeavours to bolster the reinvigoration of Technical and Vocational Education (TVE) in Nigeria.

Curriculum review, as outlined by Ojukwu (2008), may also come about when there is a recognized necessity for enhancing the current curriculum in response to technological advancements and the requirement for refining processes to enhance societal progress. It was in light of these requirements that the National Board for Technical Education (NBTE) initiated an extensive review of all minimum guideline curricula beginning in 2001. This initiative aimed to substantially reshape polytechnic programs flow with emerging technological and socio-economic developments, as well as the evolving demands of the workforce. An in-depth analysis of various curricula for business programs, according to this perspective, indicates that any course title should consist of 25% theoretical content and 75% practical exercises. This distinction is particularly significant in a period marked by widespread unemployment and the issue of graduates being ill-prepared for employment opportunities.

**Table 1: What Has Changed?**

<b>Word Processing (Microsoft Office)</b>	<b>Brief Description</b>
Microsoft Office 365/Latest Version of Microsoft Word ()	A comprehensive productivity suite that includes applications like Word, Excel, PowerPoint, Outlook, and more. It allows cloud-based collaboration and synchronization across devices (Microsoft, n.d.).
Microsoft Outlook	It is an email client and personal information manager developed by Microsoft. It is an integral part of the Microsoft Office suite of productivity software. Outlook is widely used for managing various aspects of communication and organisation in both personal and professional settings.

	Calendar Management, Task Management, Contact Management
Microsoft OneNote	Microsoft OneNote is a versatile digital note-taking application that offers a wide range of features to help users create, organize, and manage their notes and information effectively. It is part of the Microsoft Office suite of applications and is available across various platforms, including Windows, macOS, iOS, and Android.
Microsoft Visio	Microsoft Visio is a diagramming and vector graphics application developed by Microsoft. It is part of the Microsoft 365 suite (formerly Office 365) and is primarily used for creating a wide range of diagrams and flowcharts. Visio provides a user-friendly and versatile platform for visualizing complex information, processes, systems, and data, making it a valuable tool for businesses and professionals in various industries.
Storage	
Google Workspace (formerly G Suite)	It is comprehensive suite of cloud-based productivity tools offered by Google. It comprises a range of applications designed to facilitate collaborative work, streamline communication, and enhance productivity. Key components of Google Workspace include Google Docs (word processing), Google Sheets (spreadsheets), Google Slides (presentation software), Gmail (email), Google Drive (cloud storage), Google Calendar (scheduling and appointments), and Google Meet (video conferencing), among others.
Dropbox	Dropbox is a cloud-based file storage and synchronization service that allows users to store files and folders online and access them from various devices with an internet connection. Dropbox offers both free and paid subscription plans, making it a versatile tool for individuals, businesses, and professionals, including secretaries, who need efficient file management and collaboration capabilities.
Google Drive	Google Drive is a cloud-based file storage and synchronization service developed by Google. It allows users to store files and data securely on Google's servers, making them accessible from various devices with an internet connection. Google Drive is integrated into the broader Google Workspace (formerly G Suite) ecosystem, making it a powerful tool for individuals, businesses, and professionals for efficient file management,

Microsoft OneDrive	collaboration, and document sharing. It also performs the same function as one drive It is cloud-based file storage and synchronization service offered by Microsoft as part of its Microsoft 365 suite (formerly known as Office 365). It allows users to store, access, and share files and data from anywhere with an internet connection. OneDrive seamlessly integrates with other Microsoft productivity tools, making it a valuable asset for individuals, businesses, and professionals in an office setting.
Exchange Online	Exchange Online is a cloud-based email and calendar hosting service provided by Microsoft as part of its Office 365 (now Microsoft 365) suite. It is designed to meet the email communication and scheduling needs of businesses and organisations. Exchange Online offers a secure and reliable platform for managing email, calendars, contacts, and tasks while providing the benefits of cloud-based accessibility and collaboration. Exchange Online serves as a comprehensive email hosting solution, allowing businesses to create and manage custom email addresses (e.g., yourname@yourcompany.com) associated with their domain
Microsoft Form	Data Gathering
Google Form	Online Survey platform
Surveyheart	Online Survey platform
	Online Survey platform
	E-meeting
Google Meet	online meeting platform
Zoom	online meeting platform
Microsoft One Team	online meeting platform
Team Viewer	online meeting platform

**Source: Researchers put-up (2024)**

### Statement of the Problem

In the dynamic landscape of the 21st-century office, the job effectiveness of Office Technology and Management (OTM) graduates, particularly secretaries, is paramount. The impact of constant curriculum review on the preparedness of OTM graduates for contemporary office roles, especially in the University of Ibadan, remains an essential area for investigation. Understanding how the curriculum adaptation aligns with the evolving demands of the modern office setting is crucial for ensuring the continued relevance and effectiveness of OTM graduates in their professional roles.

## **Objectives of the Study**

The general objective of this work is to examine the impact of constant curriculum review on job effectiveness of OTM graduates in the 21<sup>st</sup> Century Office in University of Ibadan, Ibadan, Oyo State. Other objectives are to:

1. identify key competencies emphasised in the curriculum that contribute to the job effectiveness of OTM graduates
2. assess the job effectiveness of OTM graduates working as secretaries in the University of Ibadan
3. determine the perceived impact of constant curriculum review on the preparedness of OTM graduates in meeting the demands of their roles in 21st-century offices

## **Research Questions**

1. What are the key competencies emphasised in the curriculum that contribute to the job effectiveness of OTM graduates?
2. To what extent do OTM graduates, employed as secretaries in the University of Ibadan, demonstrate job effectiveness?
3. How well does the current OTM curriculum align with the evolving demands of 21st-century offices, particularly for secretarial roles?

## **Hypothesis**

1. There is no significant difference in the job effectiveness of OTM graduates who have experienced constant curriculum review compared to those who have not, in the context of secretarial roles within the University of Ibadan.

## **Theoretical Framework**

### **Constructivism Theory**

Constructivism Theory guides the curriculum development and educational strategies. Constructivism accentuates the importance of active engagement, encouraging secretaries to actively explore and use modern office tools during their training. Problem-based learning, a central constructivist principle, is integrated into the curriculum to mimic real-world office challenges. Secretaries tackle complex tasks, applying these tools practically to solve practical problems they'll encounter in their roles. Collaborative learning is also emphasised, nurturing teamwork and communication skills vital in contemporary workplaces. To accommodate varying levels of familiarity with modern office tools, the curriculum offers individualized learning

pathways. Furthermore, authentic assessment methods evaluate secretaries' ability to practically apply these tools in office scenarios, ensuring they are well-prepared for the 21st-century office's demands. By applying Constructivism, the curriculum ensures active, problem-centered, collaborative, and personalized learning experiences, ultimately equipping secretaries with the skills required for success in the modern office environment.

## Methodology

The researchers use correlational research design. The design will establish relationship between independent variable Constant Curriculum Review and dependent variable Job Effectiveness of OTM Graduates. The researchers also adopt stratified and simple random sampling technique. Stratify sampling technique to categorize secretaries according to their graduating years. This stratification aims to assess the influence of curriculum changes over different graduating years and simple random to select in such a way that each of the member of the stratum would have probability of being select. The total population of the study is 84 secretaries in University of Ibadan. The researchers employed Taro Yamane formular for determining sample size. Therefore, 70 Secretaries were selected as the sample. The study used questionnaire of 4 scale of Likert (Strongly Agree, Agree, Disagree, Strongly Disagree for questions on Constant Curriculum Review and Very High Extent – VHE, High Extent – HE, Low Extent – LE, Very Low Extent) to elicit data and then utilize inferential statistical analyses such as t-tests and ANOVA to investigate and delineate the connections and effects of curriculum redesign on the measured outcomes.

## Data Analysis and Results

**Research Question One:** How well does the current OTM curriculum align with the evolving demands of 21st-century offices, particularly for secretarial roles?

**Table 2: OTM Curriculum Alignment with 21<sup>st</sup> Century Office Demands**

S/N	Statements	Mean
1	Year of Graduation	2.87
2	To what extent does the current OTM curriculum adequately address the transition from typewriters to computer-based technologies?	4.27
3	Do you believe that the current OTM curriculum sufficiently integrates cloud storage technologies in preparing students for secretarial roles in the 21st century?	2.86
4	Does the OTM curriculum appropriately emphasise the skills required to navigate and utilize smart office technologies in modern secretarial tasks?	4.43
5	In your opinion, does the current OTM curriculum effectively incorporate Artificial Intelligence (AI) concepts and applications relevant to secretarial roles?	4.41
6	To what extent does the curriculum equip students with the necessary knowledge and skills to adapt to the changing landscape of communication technologies in office settings?	2.50
7	Is the current OTM curriculum responsive to the increasing demand for digital literacy in secretarial roles, considering the shift from traditional to digital documentation?	4.64
8	Do you think the curriculum adequately covers the evolution of communication tools and their impact on secretarial responsibilities, considering changes from the past to the present?	3.73



9	Does the current curriculum sufficiently address the integration of collaborative technologies and tools in preparing OTM graduates for teamwork and communication in modern offices?	4.29
10	To what extent does the OTM curriculum take into account the advancements in automation and digitization that affect secretarial tasks in contemporary office environments?	3.71
11	In your view, does the current OTM curriculum adequately consider the evolving role of secretaries as technology integrators in smart office environments?	3.86
<b>Grand Mean</b>		<b>3.78</b>

**Research Question Two:** To what extent do OTM graduates, employed as secretaries in the University of Ibadan, demonstrate job effectiveness in meeting the contemporary challenges of the modern office environment?

**Table 3: Assessment of OTM Graduates' Proficiency in University of Ibadan**

S/N	Statements	Mean
1	To what extent is your proficiency level in using e-platforms for office communication and collaboration	2.57
2	To what extent do you possess advanced skills in using graphics packages for creating visual presentations and materials?	3.14
3	To what extent do you believe mastering ICT skills such as e-platform usage, cloud storage, graphics packages, and data analysis contributes to your overall job effectiveness?	4.71
4	How important do you think continuous training and upskilling in ICT skills are for meeting the contemporary challenges of the modern office environment?	4.71
5	Do you believe your proficiency in cloud storage usage positively contributes to your job effectiveness?	4.86
6	What is your frequency level do you utilize cloud storage services for document management and sharing?	3.57
7	To what extent do you think you are better than those that graduated before/after you	4.43
<b>Grand Mean</b>		<b>4.00</b>

### Descriptive Statistics

**Table 4:**

	N Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Constant Curriculum Review	70	3.8286	.80111	-.326	.287	-.927	.566
Job Effectiveness of OTM Graduates	70	4.0000	.56256	.073	.287	-.840	.566
Valid N (listwise)	70						

### Correlation

**Table 5:**

		Constant Curriculum Review	Job Effectiveness of OTM Graduates
<b>Constant Curriculum Review</b>	Pearson Correlation	1	.979**
	Sig. (2-tailed)		.000
	N	70	70
<b>Job Effectiveness of OTM Graduates</b>	Pearson Correlation	.979**	1
	Sig. (2-tailed)	.000	
	N	70	70

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

The correlation analysis results show a strong and highly significant positive relationship between the variables Constant Curriculum Review and Job Effectiveness of OTM Graduates. The Pearson correlation coefficient (r) is reported as 0.979 for both variables. The value of 0.979 indicates a

very strong positive correlation between Constant Curriculum Review and Job Effectiveness of OTM graduates. The significance level (Sig. or p-value) is reported as 0.000, which is less than the conventional threshold of 0.05. This indicates that the correlation is statistically significant at the 0.01 level, meaning that the observed relationship between constant curriculum review and job effectiveness is highly unlikely to have occurred by chance. The positive sign of the correlation coefficient (0.979) indicates a positive linear relationship. As one variable (constant curriculum review) increases, the other variable (Job Effectiveness of OTM graduates) also tends to increase. With a significance level of 0.000, the p-value is extremely small, providing strong evidence to reject the null hypothesis. The null hypothesis typically posits that there is no significant correlation between the variables. In this case, the evidence suggests that there is indeed a significant positive correlation. The correlation analysis indicates a robust and highly significant positive relationship between constant curriculum review and the job effectiveness of OTM graduates. As constant curriculum review increases, there is a substantial tendency for the job effectiveness of OTM graduates to also increase. This finding supports the notion that ongoing curriculum adaptation is associated with enhanced job effectiveness among OTM graduates in the context of the study.

### Variables Entered/Removed<sup>a</sup>

**Table 6:**

Model	Variables Entered	Variables Removed	Method
1	Constant Curriculum Review <sup>b</sup>	.	Enter

a. Dependent Variable: Job Effectiveness of OTM Graduates

b. All requested variables entered.

### Model Summary

**Table 7:**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979 <sup>a</sup>	.958	.958	.11558

a. Predictors: (Constant), Constant Curriculum Review

The R Square value (coefficient of determination) is 0.958, indicating that approximately 95.8% of the variance in the dependent variable (Job Effectiveness of OTM Graduates) can be explained by the predictor variable (Constant Curriculum Review and Job Effectiveness of OTM graduates). The Adjusted R Square is also **0.958**, which adjusts the R Square value for the number of predictors in the model. It remains the same in this case, suggesting that the model is a good fit.



The skillset and responsibilities of traditional secretaries demanded a high level of physical and mental aptitude. The introduction of modern technologies and software has alleviated the arduous tasks that were once associated with the role of a secretary, spanning activities like production, replication, storage, and retrieval, among others. It was observed that Constant Curriculum Review is positively correlated with Job Effectiveness of OTM Graduates in the 21<sup>st</sup> century office owing to the fact that P-value is less than the conventional threshold of **0.05** and  $r^2$  value **0.958**. Hence, the coefficient of determination was 0.687 This represents the change in Job Effectiveness of OTM Graduates for a one-unit change in Constant Curriculum Review. Furthermore, Constant Curriculum Review enhances Job effectiveness of OTM Graduates in the 21<sup>st</sup> Century Office. The Standardized Coefficient (Beta) for Constant Curriculum Review is 0.979, indicating the strength and direction of the relationship. It is highly significant (p-value = 0.000). This study is in line with the submission of Smith et al., (2018) and Brown & Jones, (2020) that constant updating of the curriculum ensures that the educational programs meet the societal demand and are up-to-date with the advancements in various fields. Exposure to modern knowledge and skills makes the curriculum more relevant and current, it also establishes a strong positive correlation with student engagement and motivation. These are achieved through the exposure of the learners to real applications of knowledge, as well as participation in interactive learning, which heightens their interest in their studies (Johnson et al., 2019; Lee & Kim, 2021).

## **Conclusion**

This study illuminates the dynamic relationship between constant curriculum review and the job effectiveness of Office Technology and Management (OTM) graduates, particularly secretaries, within the 21st-century office landscape. The exploration of the historical evolution of secretarial education, from manual typewriters to the integration of contemporary technologies, underscores the profound impact of technological advancements on the role of secretaries. The findings affirm a strong positive correlation between constant curriculum review and the job effectiveness of OTM graduates. The statistically significant relationship revealed through correlation and regression analyses indicates that ongoing adaptations to the curriculum play a pivotal role in enhancing graduates' preparedness for the challenges of modern offices. Constructivism Theory serves as a guiding framework, emphasizing active engagement, problem-based learning, and collaboration to equip secretaries with practical skills aligned with real-world office scenarios. The study accentuates the imperative for continuous curriculum review to ensure its relevance in addressing the evolving demands of 21st-century offices. It advocates for a proactive approach,

encouraging graduates to pursue additional training to fill any gaps left by the curriculum. The call for lifelong learning becomes paramount, as secretaries must continually update their skills to navigate the ever-changing digital landscape effectively. In essence, this research contributes to the broader discourse on the nexus between education, technology, and professional effectiveness.

## Recommendations

From the findings of this study, following recommendations are made:

- i. There should be constant review of the curriculum of OTM to accommodate latest development in Technology
- ii. Old graduates of OTM (Secretaries) most especially in the University of Ibadan should be encouraged to go for training in order to learn latest development that the curriculum didn't cover why they were in school
- iii. As reliance on digital communication continues to surge, secretaries must continuously align with the evolving skill requirements. It is essential to recognize that, given the ever-changing digital landscape, skill prerequisites will continually evolve.
- iv. Secretaries must equip themselves with fundamental digital competencies and commit to ongoing skill development to remain abreast of the latest advancements.
- v. Collaboration between the OTM academicians and Industrial experts to be able incorporate new changes in the curriculum

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## **A Post COVID-19 Pandemic Business Environment: Digital Transformation and Non-Teaching Staff's Communication Efficacy in Yaba College of Technology, Yaba, Lagos State.**

**<sup>1</sup>Elizabeth O. Ojo, PhD; <sup>2</sup>Stella Folake OLALEYE; <sup>3</sup>Oluwaseye J. IGE;**

<sup>1,3</sup>Department of Office Management & Technology; <sup>2</sup>Department of Public Administration  
Yaba College of Technology, Yaba, Lagos

<sup>1</sup>+234-802-304-5382; ojoelizabeth03@gmail.com

<sup>2</sup>+234-805-930-9717; nwastello@gmail.com

<sup>3</sup>+234-813-114-8653; oluwaseye.ige16@gmail.com

### **Abstract**

*The study examined the influence of digital transformation on the communication efficacy of non-teaching staff in a post-COVID-19 pandemic business environment. A descriptive survey was used for the study. The population was 960 non-teaching staff members of Yaba College of Technology (YabaTech), Yaba, Lagos State. Taro Yamane formula [ $n = N / 1 + N(e)^2$ ] was used to determine the sample size of 282 and the stratified sampling method was adopted to determine the number of participants in each of the units/departments of the Institution. To measure the instrument reliability, Cronbach's Alpha test was conducted and the result was a value of 0.769. Google form was used to design the e-questionnaire and it was shared among the non-teaching staff members via their WhatsApp platform. In return, 163 non-teaching staff completed and submitted the e-questionnaire and their responses were analysed with Multiple Regression at the significance level of 0.05. The results [ $R=.714$ ;  $R^2=.510$ ; Adj.  $R^2=.504$ ;  $F\text{-value}=33.523$ ] and virtual collaboration tools 10.2% [ $\beta_1 = .054$ ;  $p\text{-value } 0.02 < 0.05$ ]; artificial intelligence contributes 12.4% [ $\beta_2 = .078$ ;  $p\text{-value } 0.01 < 0.05$ ]; and cloud-based systems contributes 13.3% [ $\beta_3 = .077$ ;  $p\text{-value } 0.00 < 0.05$ ]. The findings showed that all sub-variables digital transformation significantly influence communication efficacy. Hence, it was concluded that the implementation of digital transformation projects in Yaba College of Technology, Yaba, Lagos State will ultimately increase the communication efficacy of non-teaching staff members of the institution.*

**Keywords:** *Business Environment, Communication Efficacy, COVID-19 Pandemic, Digital Transformation, Information Technology*

### **Introduction**

Communication is a way of life, and no one lives alone. Our non-existence alone attests to the importance of human interaction and collaboration. Communication has always been the quickest and most efficient means to engage with others (Dimbleby & Burton, 2020). Communication is a process of conveying signals, feelings, actions, and emotions from one person to another. Transparency and clarity in communication are essential for effective communication. In his view, concise and uncomplicated communication reduces the likelihood of misunderstandings or confusion by ensuring that recipients understand the purpose of the message and its applicability (Mitu, 2021).

Communication becomes effective when the sender ensures the message meets the audience's needs and expectations. Communicators may create messages that resonate with recipients and elicit desired responses by having a thorough understanding of their audience's demographics, motivations, and communication preferences. In their study, they asserted that communication fosters connection and active participation between communicators and recipients (Dimbleby & Burton, 2020). Interactive communication channels increase participation and foster meaningful information and idea exchange and examples are Two-way discussion, feedback systems, and multimedia platforms. Interactive communication channels such as two-way conversation, feedback systems, and multimedia platforms promote involvement and meaningful information and idea exchange. The scholars stated that effective communicators demonstrate empathy and emotional intelligence in their interactions with others (Tegegne & Wondimu, 2024). Communicators that transmit messages with sensitivity, empathy, and emotions will acquire the respect and confidence of their recipients. People throughout the world are being taught that COVID-19 will decrease social contact and limit communication space. Instead, the development and availability of digital tools have improved how people interact. Today, most firms are accessible on the Internet with the main purpose of enhancing their company operations via digital technology.

The fast use of digital technology during the pandemic has altered how individuals and businesses function and communicate. The extent to which digital transformation projects affect communication efficacy among non-teaching personnel is unknown. However, understanding the influence of digital transformation on communication practices is critical for finding possibilities to optimize communication processes and increase organisational performance (Fyshchuk & Evsyukova, 2020). Some of the digital tools that facilitate effective communication among employees in an organisation are virtual collaboration tools (e.g. Google Meet, ZOOM, Microsoft Teams, WhatsApp, and so on), artificial intelligence (e.g. Socratic, ChatGPT, Google Assistant, Chatbots, Grammarly, Lensa, Cortana, etc.), and cloud-based systems (Google Drive, Dropbox, OneDrive, OpenDrive, iCloud, iDrive, etc.).

Several factors cause communication issues of non-teaching staff e.g. the change to remote work, hybrid work patterns, and virtual cooperation. Reliance on digital communication technologies, limited face-to-face connection, and blurring work/personal boundaries may all have an impact on communication efficacy and interpersonal dynamics within teams and departments. Non-teaching staff members, such as administrative, operational, and support staff, are critical to the

running of organisations in a variety of industries. Effective communication among them is vital for task coordination, knowledge dissemination, and organisational cohesiveness (Tegegne & Wondimu, 2024). However, non-teaching personnel may be unable to successfully and efficiently use the digital technologies (virtual collaboration tools, artificial intelligence, and cloud-based systems) that increase effective communication within and beyond the institutions. To analyse and address communication effectiveness concerns among non-teaching personnel, strategic intervention and personalized solutions must be implemented by the institution's digital transformation goals and objectives. By addressing the aforementioned gaps, management, teaching, and non-teaching staff members will acquire deeper insights into the potential connected with digital communication and establish methods to support successful communication practices within and beyond the organisations.

### **Objectives of the Study**

This study centres on the need to examine the influence of digital transformation (virtual tools, artificial intelligence, and cloud-based systems) on non-teaching staff's communication efficacy in Yaba College of Technology, Yaba, Lagos State in the post-COVID-19 pandemic business environment; the specific objectives are to:

- i. assess the level of non-teaching staff's communication efficacy in Yaba College of Technology, Yaba, Lagos State.
- ii. examine the digital transformation tools in Yaba College of Technology, Yaba, Lagos State
- iii. establish the combined influence of digital transformation (virtual collaboration tools, artificial intelligence, and cloud-based systems) on non-teaching staff in Yaba College of Technology, Yaba, Lagos State.
- iv. establish the relative influence of digital transformation (virtual collaboration tools, artificial intelligence, and cloud-based systems) on non-teaching staff in Yaba College of Technology, Yaba, Lagos State.

### **Research Questions**

The study provided answers to the following questions:

- i. What is the level of communication efficacy of non-teaching staff in Yaba College of Technology, Yaba, Lagos State?
- ii. What are the digital transformation tools in Yaba College of Technology, Yaba, Lagos State?

## Hypotheses

The two below null hypotheses were tested at 0.05 significance level:

Ho1: There is no significant combined influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on non-teaching staff in Yaba College of Technology, Yaba, Lagos State.

Ho2: There is no significant relative influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on non-teaching staff in Yaba College of Technology, Yaba, Lagos State.

## Review of Related Literature

Communication efficiency is an individual's or organisation's capacity to successfully express information, ideas, and messages to accomplish desired results. It refers to communication efforts' clarity, relevance, and efficacy in promoting comprehension, engagement, and action among intended audiences (Mitu, 2021). Effective communication is required in various contexts, including individual encounters, corporate settings, and the larger community. Communication efficacy strengthens connections, encourages cooperation, resolves problems, and drives success both in personal and professional areas. Consistent and clear communication reinforces and increases credibility and confidence. In their study, they asserted that maintaining consistency in tone, style, and content across multiple communication platforms may help firms improve brand identification, reinforce values, and develop a coherent communication strategy (Mheidly & Fares, 2020). Communication effectiveness necessitates adaptation and flexibility in response to changing circumstances, audience preferences, and communication problems (Fyshchuk & Evsyukova, 2020). Agile communicators may modify their strategy, vocabulary, and delivery to successfully express messages in many contexts and situations.

Communication efficacy is ultimately determined by how it affects intended objectives, such as enhanced awareness, behaviour modification, or organisational performance. According to Ratzan, Sommarivac, and Rauh (2020), communicators must create clear objectives, identify key performance indicators, and evaluate communication activities in terms of quantifiable outcomes so that businesses may measure efficacy and influence future initiatives. Communication efficacy is required for successful communication outcomes in a variety of personal, professional, and organisational contexts. Demonstrating special skills such as prioritisation, clarity, evaluative relevance, engagement, empathy, consistency, adaptability, and quantifiable impact are essential

qualities of good communicators for effectiveness and to produce positive results for organizations and staff, especially non-teaching staff who deal with a variety of individuals.

Non-teaching staff also referred to as non-academic staff oversee the administrative and support functions and take part in non-instructional tasks.. They constitute a burden on the institution's administrative functions and activities. They provide critical services to assist teaching and learning activities. They can be found in several departments/units, including administrative, technical support, maintenance and facilities, food service and catering, library, health and counselling, transportation, and cleaning. As they contact a large number of kids, parents/guardians, teaching and non-teaching staff, vendors, government agency representatives, and the general public at large, they have to promote the norms of effective communication. In his view, effective communication happens when the recipient provides adequate feedback to the sender (Kalogiannidis, 2020). Effective communication is even more crucial during emergencies or times of crisis. In order to protect the safety of students, professors, and visitors, non-teaching staff must provide explanations of safety precautions, evacuation protocols, and other vital information. Employees should use digital technology to enhance their communication efficacy and encourage effective communication to prevent communication breakdowns.

Digital transformation is the process of infusing digital technology into a company, significantly altering how it runs and provides value to customers (Olaniyi, 2024). It comprises implementing digital tools and technology to simplify processes, boost efficiency, enhance customer experiences, and foster creativity. To fully realize the digital potential, a cultural transformation, organisational reform, and strategic vision are necessary, in addition to the usage of developing technology (Baptista, 2020; Bolton, Goosen, & Kitzinger, 2020). Digital transformation technologies include cloud computing, AI, machine learning, IoT, big data analytics, and automation. In any organisation, these technologies enable employees to share their perspectives, cooperate with other members of staff, and devise methods for enhancing service delivery. For example, a virtual meeting may be watched on any digital platform, such as WhatsApp, Google Meet, ZOOM, and so on.

In today's digitalized environment, virtual collaboration tools have altered how teams communicate, coordinate, and collaborate. According to Burova et al. (2022), virtual collaboration tools are a set of software applications and platforms that allow individuals to interact, coordinate projects, exchange files, and collaborate online. These tools are essential in modern company operations, whether for remote work, scattered teams, or just enhancing efficiency inside a

traditional office. Nyathani (2023) asserted that individuals use technology to link geographically dispersed teams and optimize operations. Virtual collaboration solutions include instant messaging, chat rooms, and video conferencing services, which allow team members to engage and work in real time regardless of their location.

Furthermore, virtual tools allow easy sharing and collaboration on documents, spreadsheets, presentations, and other materials. Most individuals can edit papers concurrently, track changes, and provide feedback to increase staff cooperation and productivity. In their view, the tools provide rapid communication and transparency among team members, resulting in increased cooperation and goal alignment (Newman & Ford, 2021). Many virtual collaboration solutions incorporate centralized file storage in the cloud, ensuring that team members have access to the most recent documents and resources from any device. Version control technologies help to avoid conflicting updates and keep data consistent across several writers. Virtual collaboration tools collaborate with some third-party apps and services, including email, calendaring, document management, and customer relationship management (CRM) systems. This interface enhances operations and enables easy information transmission across several platforms.

A transformative technology that imitates and improves human intelligence is referred to as Artificial Intelligence (AI). In agreement, Guzman and Lewis (2020) asserted that the machine encompasses a variety of tactics, algorithms, and processes for enabling computers to do tasks that have traditionally needed human intelligence, including learning, reasoning, problem-solving, perception, and language understanding. AI can automate repetitive and time-consuming tasks like as data entry, scheduling, and document management. Hohenstein et al., (2023) stated that with the availability and accessibility to AI-powered systems, employees may dedicate more time to higher-value activities that need human inventiveness and problem-solving skills. AI technology scans large volumes of data to offer insightful analysis and help individuals make decisions at work. The analytics helps professionals make more informed decisions more quickly and accurately, from resource allocation to economic forecasts.

There are numerous advantages of using AI - it improves and optimises resource management, providing student support, expediting administrative procedures, and making data-driven decisions that enhance both student achievement and institutional success, non-teaching staff members in educational institutions primarily rely on artificial intelligence (Kraugusteeliana, 2023). Routine work can be automated so that non-teaching staff members have more time for strategic tasks that call for human judgment and creativity. AI-driven communication solutions



facilitate efficient communication and teamwork among non-teaching employees by enabling them to exchange data, plan assignments, and work together in real-time on projects. When such a practice is in place, it improves productivity and collaboration inside the organization. AI contents are effectively stored via cloud-based systems. Large volumes of data are scanned by AI technology, which can then offer insightful analysis to help individuals make decisions at work. AI-powered analytics help professionals make more informed decisions more quickly and accurately, from resource allocation to economic forecasts.

Cloud-based solutions facilitate the quick deployment of new applications, features, and services, which fosters agility and creativity. Cloud-based solutions enable geographically distributed teams, partners, and customers to collaborate more easily by giving them remote access to information, applications, and services from any location with an Internet connection (Wu & Plakhtii, 2021). This global accessibility fosters cooperation, information sharing, and innovation, regardless of physical location or time zone. Cloud companies offer resilient infrastructure with redundancy, failover techniques, and disaster recovery capabilities to ensure high availability and dependability (Khan et al, 2020). Organisations employ cloud-based systems to decrease the risk of downtime, data loss, and service disruptions, hence increasing business continuity and resilience. To protect client data and comply with regulations, cloud service providers employ stringent security measures, encryption techniques, and compliance standards. Employees may improve their security posture, reduce potential risks, and more quickly meet industry-specific compliance requirements by leveraging cloud providers' knowledge and resources.

Non-teaching staff can use cloud-based systems to manage and access enormous amounts of data related to student records, administrative papers, financial information, and institutional resources. According to Bogucki (2021), cloud-based collaboration solutions enable non-teaching staff to collaborate and communicate more efficiently by offering shared workspaces, document collaboration tools, and real-time communication channels. Non-teaching staff members may improve collaboration on projects, share papers, and debate ideas, independent of their physical location or time zone.

Cloud-based technologies allow non-teaching personnel to work remotely and access critical information and apps from any location with an internet connection (Bogucki, 2021). Employees can meet a variety of job preferences, manage work and home obligations, and maintain productivity even in the face of unforeseen circumstances because of this flexibility. Bengtsson and Hägerlöf (2023) agreed that cloud-based solutions are driving forces that automate and

expedite administrative functions e.g. employee or student registration, meeting scheduling, admission processing, project reporting etc. The automated processes and self-service portals enable staff to better manage workloads and concentrate on high-value activities. Non-teaching personnel can employ cloud-based communication platforms to improve interactions and collaboration with students, parents, instructors, and other stakeholders. Cloud-based solutions provide transparent communication and participation with the greater institutional community via secure messaging, video conferencing, and collaboration capabilities.

Schilirò (2021) affirmed that the pandemic of COVID-19 leads to the emergence of digital transformation and stimulates digital technology applications to streamline difficult business activities and operations. The emergence of this pandemic forced a shift to remote work, which increased dependence on cloud-based productivity suites, project management software, and video conferencing as examples of digital communication tools. Mičić and Mastilo (2022) report that organisations have swiftly adopted and increased the use of remote workforce technology, leading to a digital revolution of traditional work practices and communication ways. Consumers flocked to internet purchasing in historic numbers during the epidemic, since conventional businesses were shuttered or operating under limitations. Retailers and e-commerce platforms saw increased demand, encouraging investments in digital infrastructure, omnichannel capabilities, and tailored online experiences. The epidemic has expedited the digital revolution of retail, accelerating the expansion of e-commerce and transforming consumer behaviour.

The COVID-19 pandemic is accelerating digital change across several industries, altering company strategy, consumer behaviour, and cultural norms. Organisations that implemented digital transformation during the pandemic were better positioned to adapt to changing conditions, meet increasing customer expectations, and promote innovation in a rapidly changing environment. The confluence of digital transformation and communication efficacy is critical for organisational adaptability and success, especially in the context of the COVID-19 pandemic and its aftermath (Ratzan, Sommarivac, & Rauh, 2020). Communication channels are expanded through digital transformation and that enables organisations to reach out to their stakeholders via various digital platforms like email, social media, videoconferencing, and instant messaging. Employee loyalty and customer engagement are viable and effective in more frequent and timely communication.

With digital transformation, information is easier and faster to disseminate within and outside the organisation and it provides 24/7 access to critical data, documents, and resources (Mičić &

Mastilo, 2022). The provision and accessibility of these resources increase communication efficacy as stakeholders will have the information they need for concrete decisions and to perform their tasks efficiently. Olaniyi (2024) is of the view that implementing collaborative tools and platforms to improve cooperation, information sharing, and project coordination is a frequent feature of digital transformation initiatives. The implementation enhances communication effectiveness and drives seamless collaboration regardless of geographical location or time zone.

Fyshchuk and Evsyukova (2020) stated that digital transformation enables organisations to collect and evaluate data about stakeholder preferences, habits, and comments. Organisations may improve communication efficacy, engagement, and satisfaction by tailoring messages to the specific needs and interests of different audiences. Digital transformation enables firms to create feedback loops and measure communication effectiveness in real time (Mićić & Mastilo, 2022; Schilirò, 2021). By reviewing measures and insights from digital channels, businesses may uncover areas for improvement, adjust their communication strategy, and incrementally raise communication efficacy over time.

During the COVID-19 pandemic, effective communication is required to manage uncertainty, alleviate anxiety, and sustain stakeholder trust and confidence (Kalogiannidis, 2020). With digital transformation, organisations establish crisis communication strategies, communicate timely updates, and deliver transparent information via digital channels, hence improving communication efficacy and organisational resilience in times of disaster. Digital transformation includes activities to improve employees' digital literacy and communication skills so that they can successfully access and use digital technologies (Olorundare, Olowe, & Olorundare, 2022). By investing in training and development programs, organisations may enable workers to communicate more effectively, efficiently, and persuasively in digital contexts, thereby enhancing communication efficacy across the enterprise. Digital transformation and communication efficacy are inextricably linked, with digital technologies playing critical roles in improving communication effectiveness, efficiency, and agility inside enterprises (Ashiru, Nakpodia, & You, 2023). Non-teaching staff and other employees can drive engagement, collaboration, and innovation by leveraging digital tools, platforms, and strategies to facilitate seamless communication, eventually achieving the institution's strategic objectives and maintaining a competitive edge in today's digital landscape.

## Methodology

A descriptive survey was used for the study. The population was 960 non-teaching staff members of Yaba College of Technology (YabaTech), Yaba, Lagos State (*See Table 1 for the distribution*). Taro Yamane formula to determine the sample size. Taro Yamane formula  $[n = N / 1 + N(e)^2]$  was used to determine the sample size of 282 and the stratified sampling method was adopted to determine the numbers of the participants to approach from each of the units/departments. To affirm the instrument reliability, a test was conducted and it produced Cronbach's Alpha value of 0.769. Google form was used to design the e-questionnaire and it was shared among the non-teaching staff members via the WhatsApp platform. In return, 163 non-teaching completed and submitted the e-questionnaire and their responses were analysed with Multiple Regression at the significance level of 0.05.

**Table 1:** YabaTech's Non-Teaching Staff Population

Schools and Units	Number of Non-Teaching Staff	Percentage %	Targeted Respondents
Art, Design and Printing	42	4.4	12
Bursary	92	9.6	27
Engineering	64	6.7	19
Environmental Studies	28	2.9	8
Liberal Studies	19	2.0	6
Library	47	4.9	14
Management and Business Studies	49	5.1	14
Rectory	298	31.0	87
Registry	207	21.6	61
Science	50	5.2	15
Technical Education	13	1.4	4
Technology	51	5.3	15
<b>Total</b>	<b>960</b>	<b>100</b>	<b>282</b>

**Source:** <https://yabatech.edu.ng/stafflists.php>, 2023

According to Table 1, the Rectory has the highest number of non-teaching staff members (298), making up 31.0% of all non-teaching staff in YabaTech. Registry comes in second with 207 employees, or 21.6% of the total. The percentages of the entire personnel that are in Bursary, Engineering, Management, and Business Studies are also notable. Compared to other schools, the staff numbers and percentages at Liberal Studies, Technical Education, and Environmental Studies are lower. The number of targeted respondents varies throughout departments, probably because of the department's prominence and volume of tasks the staff attended to daily. All things considered, this study sheds light on how non-teaching employees are distributed among YabaTech's departments and how significant or small they are to other departments.

## Results

**Table 2: What is the level of communication efficacy of non-teaching staff in Yaba College of Technology, Yaba, Lagos State?**

S/N	Statements	Mean	StDev	Remark
1	I have a strong feeling for my institution	3.32	1.82	Accepted
2	I have a strong desire to continue working with my institution	3.46	1.86	Accepted
3	I am emotionally attached to the success of my institution	3.59	1.89	Accepted
4	I maintain high level of relationships with other employees in my institution	3.68	1.92	Accepted
<b>Average mean and standard scores</b>		<b>3.46</b>	<b>1.86</b>	

Source: Field survey, 2024

Table 2 showed the outcomes of the mean and standard of office managers who have a strong feeling for their institutions as 3.32 and 1.82 respectively. It implies that office managers who participated in this study generally have a strong emotional attachment to their institutions and that showed a high level of commitment to their jobs. With the mean and standard deviation scores of 3.46 and 1.86, the outcomes revealed that office managers are willing to continue working with their institutions and that demonstrated a high level of commitment. The mean and standard deviation of Office managers' emotional attachment to the institutional success were 3.59 and 1.89; it implies that office managers have a positive emotion towards their institutions' success.

The mean and standard deviation scores of office managers' maintenance of high-level relationships with other employees were 3.68 and 1.92 respectively; this infers that office managers maintain strong relationships with their colleagues and showed a high level of commitment to teamwork. The mean and standard deviation scores of 3.42 and 1.85 indicated that most office managers will feel distorted if they are not motivated and that showed their level of commitment to responsibilities. Office managers' investment of energy, time, skills, and intellect to meet institutional goals showed mean and standard deviation scores of 3.29 and 1.81 respectively. The outcomes showed that office managers actively invest their resources to contribute to the achievement of institutional goals. In general, the average mean and standard deviation scores were 3.10 and 1.74 respectively. This implies that there is a high level of commitment among office managers in polytechnics in South West, Nigeria.

**Table 3: What are the digital transformation tools in Yaba College of Technology, Yaba, Lagos State?**

S/N	Statements	Mean	StDev	Remark
1	Virtual collaboration tools	3.29	1.81	Accepted
2	Artificial intelligence	2.19	1.48	Rejected
3	Cloud-based systems	3.12	1.77	Accepted
<b>Average mean and standard scores</b>		<b>2.24</b>	<b>1.47</b>	

Source: Field survey, 2024

In Table 3, as regards the welfare facilities provided by the polytechnics in South West, Nigeria for office managers, the survey revealed a positive welfare provision (mean 3.29; StDev. 1.81) for office managers in the institution. The mean and standard deviation of housing allowances or staff quarters provision were 2.19 and 1.48 respectively. This result implies that management of these institutions would need to improve the housing allowances or adequately provided staff quarters for office managers. The mean and standard deviation scores of transportation services at discount rate were 3.12 and 1.77 respectively. This indicates that there is a potential and positive improvement in this aspect of welfare provision. The mean and standard deviation scores of the provision of recreational centers were 1.39 and 1.18 respectively; it implies there is insufficient of these facilities for office managers. The provision of childcare services for office managers who are nursing mothers revealed the mean and standard deviation scores of 1.17 and 1.08 respectively; the outcome suggests that there is a need to enhance these welfare facilities and if not provided, it should be.

The mean and standard deviation scores of provision of counselling services revealed 2.27 and 1.51 respectively. The aspect was unaccepted. This infers that the counseling services may not be provided in some institutions while in other institutions they are not adequately provided for office managers. In all, the average and standard scores were 2.24 and 1.47 respectively. This implies that management should adequately make provisions welfare facilities for office managers in polytechnics in South West, Nigeria. And if to enhance office managers' commitment to work, these facilities such as housing allowances, recreational centers, childcare services, and counseling services urgently need government or management attention.

**Hypothesis 1:** There is no significant combined influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on non-teaching staff in YabaTech, Yaba, Lagos State.

**Table 4: Summary of Regression for a combined influence of digital transformation (virtual collaboration tools, artificial intelligence, and cloud-based systems) on non-teaching staff in YabaTech, Yaba, Lagos State.**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.609	0.371	0.365	0.267

a. Predictors: (Constant), *Communication Efficacy*

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.931	2	21.47	34.814	.000 <sup>b</sup>
	Residual	99.267	161	0.617		
	Total	142.198	163			



a. Dependent Variable: *Communication Efficacy*

b. Predictors: (Constant), *Digital Transformation (Virtual collaboration tools, artificial intelligence, and cloud-based systems)*

In Table 4, the considerable joint influence of digital transformation (virtual collaboration tools, artificial intelligence, and cloud-based systems) shows multiple regression coefficient  $R = .609$  and multiple  $R^2 = .371$  were obtained as a consequence. It infers that the three sub-variables combined accounted for 36.5% ( $\text{Adj.}R^2 = 0.365$ ) of the variation in the prediction of communication efficacy. The ANOVA result from the regression analysis demonstrates that digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) significantly influence communication efficacy. The F-value and p-value are  $=34.814$  and  $0.000$  respectively and they showed that a strong significant relationship between the variables. as p-value  $0.000$  was less than  $0.05$  level of significance. Thus, the null hypothesis is rejected, and alternative accepted.

**Hypothesis 2:** There is no significant relative influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on non-teaching staff in YabaTech, Yaba, Lagos State.

**Table 5: Summary of Regression for a relative influence of digital transformation (virtual collaboration tools, artificial intelligence, and cloud-based systems) on non-teaching staff in YabaTech, Yaba, Lagos State.**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	32.931	11.465		2.872	0.00
Virtual Collaboration Tools	0.102	0.047	0.054	2.147	0.02
Artificial Intelligence	0.124	0.046	0.078	2.683	0.01
Cloud-Based Systems	0.133	0.056	0.077	2.385	0.00

Dependent Variable: *Communication Efficacy*

Table 5 provides information on the coefficients of the regression model. the intercept represents the value of communication efficacy when digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) are zero. As it is shown in Table 2, the result shows that virtual collaboration tools 10.2% ( $\beta_1 = .054$ ; p-value  $0.02 < 0.05$ ); artificial intelligence contributes 12.4% ( $\beta_2 = .078$ ; p-value  $0.01 < 0.05$ ); and cloud-based systems contributes 13.3% ( $\beta_3 = .077$ ; p-value  $0.00 < 0.05$ ). The outcomes proved that all sub-variables (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) significantly influence the dependent variable (communication efficacy). Thus, the null hypothesis is therefore rejected. This shows that

the implementation of digital transformation projects in YabaTech, Yaba, Lagos State will ultimately increase the communication efficacy of non-teaching staff members of the institution.

### Discussion of Findings

Hypothesis 1 explained the combined influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on communication efficacy of non-teaching staff in YabaTech, Yaba, Lagos State. The result [ $R=.714$ ;  $R^2=.510$ ; Adj.  $R^2=.504$ ;  $F\text{-value}=33.523$ ] of multiple regression analysis revealed that all the four sub-variables (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) have a favourable and substantial influence on communication efficacy of non-teaching staff in YabaTech, Yaba, Lagos State. The result is in accordance to the view of Newman and Ford (2021) that digital technologies enable team members to communicate and collaborate more quickly and transparently, resulting in improved collaboration and alignment. Also, Mićić and Mastilo (2022) suggested that digital transformation accelerates information diffusion inside organisations and gives employees 24/7 access to vital data, documents, and resources.

Hypothesis 2 examined the relative influence of digital transformation (*virtual collaboration tools, artificial intelligence, and cloud-based systems*) on non-teaching staff in Yaba College of Technology, Yaba, Lagos State. The result showed that virtual collaboration tools 10.2% [ $\beta_1 = .054$ ;  $p\text{-value } 0.02 < 0.05$ ]; artificial intelligence contributes 12.4% [ $\beta_2 = .078$ ;  $p\text{-value } 0.01 < 0.05$ ]; and cloud-based systems contributes 13.3% [ $\beta_3 = .077$ ;  $p\text{-value } 0.00 < 0.05$ ]. The result revealed that digital transformation immensely contributed to the enhancement of the communication efficacy of non-teaching staff of YabaTech; however, out of the assessed sub-variables, cloud-based systems were the strongest contributor. In line with this result, Bogucki (2021) asserted that cloud-based collaboration solutions enable employees to collaborate and communicate more efficiently by offering shared workspaces, document collaboration tools, and real-time communication channels. Bengtsson and Hägerlöf (2023) also affirmed that automated processes and self-service portals enable staff to better manage workloads and concentrate on high-value activities.

### Conclusion

The study reveals that digital transformation has a substantial impact on the non-teaching staff's communication efficacy at YabaTech. The use of digital tools and platforms reduces communication barriers, allowing for more effective and efficient communication among staff

members. The study found that digital transformation might help non-teaching staff interact and collaborate with not just their coworkers, but also academic staff, vendors, parents/guardians, and the general public. Digital technologies such as email, instant messaging, and video conferencing may allow them to improve real-time communication and cooperation, resulting in increased production and teamwork inside the institution. Furthermore, the study found that digital technologies might quickly expose non-teaching personnel to a pool of connected and relevant knowledge and resources needed for personal and organisational growth. The study stressed the necessity of digital transformation in assisting non-teaching staff in adapting to remote work situations. During and after the COVID-19 pandemic, digital technologies facilitated remote communication and collaboration, allowing employees to maintain productivity and communication effectiveness regardless of their physical location. Finally, the research stated that embracing evolving technologies, creating a creative culture, and encouraging employee engagement are key to preserving and boosting communication efficacy in the digital era.

### **Recommendations**

Based on the study's findings and conclusion, it was recommended that management should organise thorough training programmes, seminars, and workshops on the use of digital tools and platforms for non-teaching staff and other employees, as communication and cooperation are interlinked. They should procure user-friendly digital technologies to enhance effective communication among non-teaching staff and other employees; they should encourage non-teaching staff and other members of staff to embrace emerging digital tools and strategies to improve their communication skills and performances. Management should also develop clear communication protocols and rules, and ensure that non-teaching staff and other employees strictly adhere to them when utilizing digital tools and platforms. They should ensure that the digital infrastructure is resilient and dependable in order to provide effective communication among non-teaching staff and also implement tools for monitoring and evaluating the efficacy of digital communication among non-teaching and other employees. The non-teaching staff should embrace training programs and resources that will be provided by the management and utilise the opportunity to enhance their digital skills and communication efficacy. They should also be ready to learn new things about emerging technologies and practices. They should be security cautious of sensitive information when during digital communication and provide constructive feedback to management on the effectiveness and efficiency of digital communication tools.

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## **Imperatives of Adoption of Distance Learning Model in Teaching and Learning of Office Technology and Management Course in Nigeria Polytechnics**

**OLUBATO, Felicia Yemisi**

Dept. of Office Technology and Management, Federal Polytechnic, Ede, Osun State  
08030403378; olubatofelicia@gmail.com

### **Abstract**

*Education is an indispensable asset that most Nigeria citizens aspire to have. The demand for education in Nigeria has continued to increase phenomenally; hence the inability of qualified and mature candidate to get admission into the conventional institutions has raised the need to identify more affordable ways of improving access to learning opportunities. This call for the imperatives of adoption of distance learning model in teaching and learning of office technology and management course in Nigeria Polytechnics. The population of the study comprises of 15 lecturers and 235 students of OTM and Computer Science departments in Federal Polytechnic, Ede, Osun State using random sampling technique. Questionnaire was formulated to guide the study. Descriptive Survey Design was adopted and the data collected were analysed using mean and standard deviation. The study findings showed that distance learning increases people's access to education; reduces the level of ignorance and illiteracy which causes industrial labour shortage in the country. The study concludes that, it is essential to offer and sustain OTM course through distance learning model as this would afford people who would have thought it impossible to attend the conventional school system have access to education to pursue OTM course which is a work oriented programme. The study recommends that Government should in tandem with the UNESCO recommendation allocate at least 26% of annual budget to education, as this will aid the effective adoption and implementation of ICT facilities in Office Technology and Management for distance learning use.*

**Keywords:** Distance Learning Model, Instructional Materials, Office Management

### **Introduction**

Distance learning is an educational alternative for young and adult individuals who could not attend conventional school systems. Distance learning can be described as the type of formal education that takes place outside the conventional school without having face-to-face interaction with the facilitators or other learners. More, Dickson-Deane and Galyen, (2019) defined distance learning as the effort of providing access to learning for those who are geographically distant. In a developing country such as Nigeria, that has many young people aspiring for higher education while there are limited numbers of higher education spaces and resources to cater for them, distance learning model has the potential to meet their needs if there are required resources, facilities and competencies on the part of the facilitators, for effective teaching and learning.

The increasing importance of distance education must have made the Federal Government spelt out in the National Policy on Education the goals of open and distance education, which is to:



1. provide more access to quality education and equity in educational opportunities
2. meet special needs of employers and employees by mounting special courses for employees at the workplace
3. encourage internalization especially of tertiary education curriculum
4. ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigerian experts as teachers regardless of their locations or places of work, and
5. encourage life-long learning opportunities (FRN, 2013).

Distance learning is any learning system where teaching behaviours are separated from learning behaviours. The learner works alone or in a group guided by study materials arranged by the instructor in a location apart from the students. Students have the opportunity to communicate with instructor with the good of a range of media such as telephone, audio, video, computing and internet. Technology and distance learning may be combined with various forms of face-to-face meetings. Distance learning is about learner-centricity as opposed to teacher-centeredness. There is a flexibility as to what, when, where and how to learn without restriction as to place, time, pace and process. Corroborating with this, Omotosho, Lateef, Amusa and Bello (2017) assert that ICT has made the culture of learning to shift from the culture of students passively listening in a classroom where attendance matters, to the culture of pro-active reading, encoding and decoding anytime and anywhere. Often times, regular mail is used to send written materials, videos and audiotapes to the learners and to turn in their exercises. Today, e-mail, the web and video conferencing over broadband network connections are also used for the effective implementation of distance learning model. Distance learning was established in Nigeria in 1983 in order to bring education closer to the citizens. National Open University (NOUN) became an overarching. Distance learning was established to provide education to large numbers of people who do not have the opportunity earlier in life or who because of their present circumstances do not find it easy to attend conventional tertiary institutions.

polytechnics in Nigeria run different types of programme in which Office Technology and Management (OTM) is one of inclusive programmes in polytechnics that can adopt distance learning model. OTM programme is the new nomenclature given to Secretarial Studies (SES) programme when the curriculum of Nigerian Polytechnics was reviewed in 2004. Some of the courses offering in OTM programme include ICT office application, keyboarding, shorthand, office practice, modern office technology, communication skills, introduction to business, webpage design, desktop publishing, career development, entrepreneurship and professional

ethics among others. these courses can be taught effectively with the use of standard and quality Information and Communication Technology (ICT) resources and facilities. It is against this background that the researcher wants to investigate into the imperatives of adoption of distance learning model in teaching and learning of OTM course in Nigerian Polytechnics.

### **Statement of the Problem**

The problem under study has to do with inadequate funding as one of the reason for lack of or low level of provision of the facilities and/or resources for adoption of distance learning model in polytechnic because funding of facilities and resources for distance learning model is capital intensive. Some of the software are not produced and developed in Nigeria, they are developed in developed countries and they are very expensive to procure. The funding of ICTs projects in institutions requires the procurement of ICT facilities and resources of different functionalities, payment of ICT experts, maintenance of ICT equipment and training and retraining of business educators who are not ICT complaints. The cost of computer laptop and other ICT resources are far beyond their reach considering the income level of average Nigerian workers. Like most developing countries, there is still low level of computer literacy among the youths and basic ICT infrastructures are inadequate in Nigeria (Dauda and Francis, 2019). Access unhindered use of ICT tools such as telephone and internet has been very low. However, the very few who have access to computers do not know how to use it and take full advantage of its usage. Nigeria higher education system is still on the lower step of the international digital ladder as it has not made any significant impact to integrate the new technologies into the school curriculum (Onyesom & Utoware, 2017). This is where OTM course which is subset of business education programme is highly affected. Most of the skilled courses like ICT, shorthand, keyboarding and so on are physically taught and students watch how the teachers place lapses on the new technology are properly incorporated, distance learning in OTM programme will be rated highest, but we still doubt it because this is a course that needs physical contact with the lecturers and the students.

### **Purpose of the Study**

The main purpose of the study was to determine the imperative of adoption of distance learning model in teaching and learning of OTM courses in Nigerian polytechnics. Specifically, the study intends to:

1. identify social media technology that can aid distance learning in teaching of OTM course
2. examine the benefits and prospects of distance learning in the teaching of OTM course

3. find out the inhibiting factors to the use of distance learning in the teaching and learning of OTM course

### **Research Questions**

1. To what extent can social media technology aid distance learning in teaching of OTM course?
2. What are the benefits and prospects of distance learning in the teaching of OTM course?
3. What are the inhibiting factors to the use of distance learning in the teaching and learning of OTM course?

### **Concept of Distance Learning**

Distance learning is an educational alternative for young and adult individual who could not attend a conventional school system. Distance learning can be described as the type of a formal education that takes place outside the conventional school system without having face-to-face with the facilitators or other learners. Moore, Dickson-Deane and Galyen, (2019) defines distance learning as the effort of providing access to learning for those who are geographically distant. Distance is a mode of delivering education and instruction, often on an individual basis, to students who are not physically present in a traditional setting such as a classroom. Distance learning proves less expensive to support and not limited by geographical location. It is a way of educating students online. Lectures and learning materials are sent over the internet. Students work from home, not in a classroom; it is a way of learning remotely. The development of new technologies has promoted an astounding growth in distance education, both in the number of students enrolling and in the number of Polytechnic adding education at a distance to their curriculum.

### **Theoretical Review**

Recently, a wider range of theoretical notions has provided a richer understanding of the learner at a distance learning model. Four of such concepts are transactional distance, interaction, learner control and social presence.

**Transactional Distance Learning:** Moore, Dickson-Deane and Galyen, 2019) concept of transactional distance encompasses the distance that, exists in all educational relationships. This distance is determined by the amount of dialogue that occurs between the learner and the instructor, and the amount of structure that exists in the design of the course. Greater instructional distance occurs when an educational program has more structure and less student-teacher dialogue, as might be found in some traditional distance learning model courses. Education offers

a continuum of transactions from less distant, where there is greater interaction and less structure, to more distant, where there may be less interaction and more structure. This continuum blurs the distinctions between conventional and distance programs because of the variety of transactions that occur between teachers and learners in both settings. Thus, distance is not determined by geography but by the relationship between dialogue and structure (Saba and Shearer, 2018).

**Interaction Distance Learning:** This is the second construct of recent interest in distance educators, and one that has received much attention in the theoretical literature is that of interaction. Moore, Dickson-Deane and Galyen, (2019) discusses three types of interaction essential in distance learning education. Learner-instructor interaction is that component of his model that provides motivation, feedback and dialogue between the teacher and student. Learner-content interaction is the method by which students obtain intellectual information from the material. Learner-learner interaction is the exchange of information, ideas and dialogue that occur between students about the course, whether these happens in a structured or nonstructural manner. The concept of interaction is fundamental to the effectiveness of distance education programs as well as traditional one as a critical component of interaction model, interaction between the learner and the technology delivers instructions.

**Control Distance Learning:** A third theoretical concept receiving attention in the distance education literature is that of independence and learner control. Studies that examine locus of control conclude that students who perceive that their academic success is a result of their own personal accomplishment have an internal locus of control and are more likely to persist in their education. Students with an external locus of control feel that their success, or lack of it, is due largely to events such as lack of fate outside their control. Thus, externals are more likely to become dropouts. Factors of control that influence dropout rate have been of concern to distance educators as they search for criteria to predict successful course completion. Moore, Dickson-Deane and Galyen, (2019) developed a model to examine the concept of control as it is defined by independence, competence and support. She notes that control is more than independence.

**Social Context Distance Learning:** Finally, the social context in which distance learning takes place is emerging as a significant area for research. Theorists are examining how the social environment affects motivation, teaching and learning. There is a widespread notion that technology is culturally neutral and can be easily used in a variety of settings. However, media, materials and services are often inappropriately transferred without attention being paid to the social setting or to the local recipient culture (Komolafe, 2021). Technology-based learning

activities are frequently used without attention to the impact on the local social environment. Computer-mediated communication attempts to reduce patterns of discrimination by providing equality of social interaction among participants who may anonymous in terms of gender, race, and physical features. However, there is evidence that the social equality factor may not extend, for example, to participants who are not good writers but who must communicate primarily in a text-based format. One social factor particularly significant to distance education is social presence, the degree to which a person feels 'socially presence' in a mediated situation. The notion is that social presence is inherent to the medium itself and technologies offer participants varying degrees of 'social presence' (Komolafe, 2021).

### **Types of Distance Learning are:**

1. Distance Education via Video Conferencing
2. Open Schedule Online Courses
3. Asynchronous Distance Education
4. Hybrid Distance Education
5. Computer Based Distance Education
6. Fixed Time Online Course

### **Office Technology and Management Programme**

Office Technology and Management Programme is information systems management and information system profession, which relate the functions of information system to organisational structure. According to National Board for Technical Education (2004), OTM programme was designed to equip students with secretarial office skill for employment in various fields of endeavour. In addition, to the acquisition of vocational skills, students are equipped with effective work competencies and socio-psychological work skill, which are very essential in every day interactions with others. The current OTM programme curriculum as reviewed in 2004 by National Board for Technical Education, laid much emphasis on computer related courses. These courses are individual into (a) secretarial studies and technique in office management and control (b) ICT application which include computer appreciation, web page design desktop publishing, database management and (c) general education relating to contemporary issues usually called general studies. Thus, the general objectives of the programme therefore are acquisition of secretarial skills, acquisition of general education and laying foundation for advanced studies. Akasi (2023), explains that OTM education involves the process of guiding and initiating the learners to acquire the necessary skills, facts, knowledge, habits and attitudes that will make them

co-exist with others as useful and productive members of the society. The graduates of OTM acquire and develop needed skills, attitudes and knowledge to meet with the new technological challenges which have revolutionary changes in the offices. They can operate with ease, dexterity, efficiency and effectiveness, the emerging technological devices which range from computer with scanning and coloured printers, to electric typewriters, e-mail, fax machines, franking machines, photocopiers, shredding machines, internet facilities, micrographic and reprographic machines, telephone and word processors.

### **Implementation of Distance Learning Model in the Teaching and Learning of Office Technology and Management (OTM) Course**

There are some basics imperative for distance learning model to be implemented for OTM. The following are some of them:

1. **Resource:** Resource are important elements required for the take-off of distance learning model in teaching and learning of OTM course in Polytechnics. Without the provision of adequate resources, effective teaching and learning of OTM courses through distance learning model cannot be implemented. Resource may be in term of (a) Human Resources (b) Financial Resources, and (c) Instructional Resources.
2. **Instructional Delivery:** Distance learning model do not provide lectures to registered students like conventional institution but instead provides specialized study materials that are based on self-learning. Teaching and learning with the use of distance learning model is carried out through print and electronic media. Printed material is the major instructional model which can be supported by other electronic communication technologies media such as audio and/or video tape. Compact disk/Digital Video Disk, Read Only Memory (CD/DVD/ROM), teleconferencing or videoconferencing, whiteboard and so on. Jegede (2018), note that NOUN students depend mostly on the use of printed materials and that printed materials are expected to remain a major instructional mode until the infrastructure for total online teaching is available.
3. **Assessment procedure:** Assessment is an important element in distance learning because it gives feedback on the effectiveness of the resources used teaching and learning both the human and material resources. Assessment and feedback in open and distance learning help to guide the learners, serve as indication for learners' progress and needs serve as a focal point of dialogue between the learners and tutors, help to verify and validate learners' achievement, they also indicate the strength and weaknesses of the course materials serve as



quality issue for the institution (Igbinedion, 2012). In distance learning evaluation/assessment can be in form of formative or summative evaluation.

### **Constraints of Adopting Distance Learning Model in the Teaching and Learning of Office Technology and Management Course**

In spite of the benefits of distance learning model, problems that may likely hinder adoption of distance learning model in the teaching and learning of OTM course are as follows:

1. **Irregular power supply:** Regular and stable electricity is need to use or run technologies but the problem of instability of power supply is rampant and has been a major setback for the use of technologies in Nigeria. Epileptic power supply is one of the major constraints facing the adoption and implementation of distance learning model in Nigeria, it may likely hinder prospective students that reside in cities, towns and rural areas from undertaking the programme through distance learning model because they may not be able to have access to regular power supply that is crucial for effective learning in distance learning model since it makes use of technologies unlike the conventional schools. Igbinedion (2012) found that the major constraint hindering the use of audio-visual and electronic resources in National Open University (NOUN) is poor power supply.
2. **Lack of skills in designing course-ware:** Instructional delivery in distance learning model is greatly affected by some facilitators' lack of knowledge and skills in designing and delivering courses in electronic format. This is as a result of the non-information communication and technology compliant status of the facilitators. Jimoh (2019) asserts that poor implementation and lack of skills in designing courses in electronic formats are the problems associated with implementation of open distance learning in Nigeria.
3. **Maintenance and technical support:** Competent and qualified personnel that are responsible for the maintenance of technologies are very few in Nigeria; this makes it very expensive for institutions and individuals that need their services anytime there is technical problem. Ajadi, Salawu and Adeoye (2018), note that maintenance and technical support are the major challenges facing distance learning.
4. **Inadequate funding:** Education is poorly funded in Nigeria. Education is among the lease considered sectors in Nigeria in terms of budgetary allocation. Despite the strategic place of education in the development of the country, and the recommendation by the United Nations Educational Scientific, and Cultural organisation to especially developing countries to allocate at least 26 percent of their annual budgets to education, Nigeria lags far behind in education funding. On the average, less than nine per cent of Federal Government

Budgets have been allocated to education since the inception of the fourth republic in 1999. Inadequate funding is one of the reasons of lack of or low level of provision of the facilities and/or resources for adoption of distance learning model in polytechnics because funding of facilities and resources for distance learning model is capital intensive. Some of the hardware and software are not produced and developed in Nigeria; they are developed in developed countries and they very expensive to procure. Nwamara (2020) notes that funding of ICTs projects in institutions require the procurement of ICT facilities and resources of different functionalities, payment of ICT experts, maintenance of ICT equipment and training of business educators who not ICT compliant.

5. **Internet Connectivity:** The cost of accessing internet is still very high in Nigeria unlike other developed countries of the world. Most distance learning students make use of cyber café where they are made to pay so much money on hourly basis despite the poor service and slow rate of the services. Even, some of distance learning students than can afford computers or laptops are not connected to the internet because internet connectivity attracts extra cost which they may not be able to afford. Osong (2020) asserts that with high costs associated with access to the internet, in developing counties like Nigeria, the absence of internet infrastructure in the rural communities where most of the students resides and the need for these students to be connected to the internet for their academic activities poses great threats to their studies and the use of ICT in Nigeria. Connecting to the internet may be slow, unreliable and cause frustration and failure of learning outcome; and learning materials may not be accessed and downloaded in time to support efficient learning. Osong (2020) confirms that internet penetration in Nigeria especially in rural areas is still very low; also factors such as high cost of bandwidth. Low computer literacy levels as well as epileptic internet services are some of the major barriers preventing the students from accessing education through open and distance learning using the internet.
6. **Lack of knowledge and skills:** Some lecturers lack knowledge and skills required for teaching with ICT resources that is, they lack telecommunication teaching skills. This prompts some lecturers to resist change because the school management or government did not organize training for them in the use of multimedia resources in preparation for the usage of the resources. Using e-learning model for teaching is basically different from any form conventional method of teaching. Yang (2016) states that lack of updating knowledge and skills of the existing teaching force in one of the challenges of using distance learning model.

7. **Attitude of Learner:** Distance learning model is a student-centered learning in which students learn at their own pace and convenience. Learners do not have access to facilitators unlike the conventional schools. Fadare (2017) asserts that students have little or no contact with an educator, they either study the online material individually, or they have access to a peer group. Distance learning gives room to independent learning but most students are reluctant to take responsibilities for their learning but prefer to be taught by the teachers. The computer awareness and technical operability of the learners in information technology is a crucial determinant of the success of distance learning.

### **Benefits and Prospects of adopting distance learning model in the teaching and learning of OTM courses**

**Flexibility:** Distance learning is flexible when issues of time and place are taken into consideration. OTM students will have the luxury of choosing the place and time that suit them unlike the conventional or traditional school where there is fixed time for the students to be in the classroom. Butressing this, Borstorff and Lowe (2017) asserts that distance learning virtually eliminates time and distance, which represents two substantial barriers to learning.

**Self-motivation:** Due to the imposing absence of traditional teachers, OTM students will be motivated to learn when the learning environment comes under their control. When students are self-motivated, it will boost their morale. Ajadi, Salawu and Adeoye (2018) asserts that distance learning helps to remove obstacles to success by providing creative ways of motivating and inspiring learners to achieve their educational goals.

Distance learning model will be providing opportunities for cordial relationship among OTM students by the use of discussion forums. Through this forum, e-learning will help eliminate barriers that may likely hinder full participation in the classroom discussion including the fear of talking to other learners. Distance learning model will motivate students to interact with others as well as exchange and respect different point of views. Wagner, Hassanein and Head (2018) assert that e-learning make available extra prospect for interactivity between students and teachers during content delivery.

**Cost effectiveness:** Distance learning model is cost effective in the sense that there will be no need for OTM students to travel long or short distance before receiving lectures like in conventional institutions. It will also be cost effective to the institution in the sense that it will offer opportunities for learning for maximum number of learners without building facilities, and also few academic (facilitators) and supporting staff members will be employed which will reduce

institution's expenditures. Tarus, Gichoya and Muumbo (2019) indicated that distance learning is cost effective.

Distance learning model will give opportunity to OTM students to combine learning with work. For those employed and in need of professional advancement, distance education is particularly beneficial. Distance learning model will accommodate both learning and working in an easier and convenient way in such a way that one will not disturb another. Unwin (2018), states that distance learning offers the combination of education with work and family life.

Distance learning model will give opportunity to OTM lecturers and students to become more versatile in the use information and communication technology unlike their counterpart in conventional institutions that may not have access to ICT resources. Nwokike (2021) opines that distance learning models offers a wide range of tools to enable learners and lecturers to be innovative, creative and resourceful in all learning activities. Lecturers and learners can easily customize digital learning style and ability.

## Methodology

The survey design was adopted for the study. Through this method, the opinion of a fairly representative sample would be sought for the purpose of generalization to the entire population. The population of study was made up of 15 lecturers and 235 students from OTM departments in state and federal polytechnics in Osun State using random sampling technique. Questionnaire was the major instrument used for the study and was validated by experts for both face structures. The questionnaire items were structured in a four point Likert rating scale of Strong Agreed (4 points) Agree (3 points) Disagree (2 points) Strongly Disagree (1 point). A mean score of 3.00 and above was considered as agreed while a mean score below was considered as Disagreed.

## Results of Analysis

### RQ1: What are the social media technology that aid distance learning in teaching of OTM course?

Table 1: Mean Rating and Standard Deviation of the social media technology that aid distance learning in teaching of Office Technology and Management Courses

S/N	Item Statements	RESPONSES						
		SA	A	D	SD	X	STD	DECISION
1.	Use of live streaming like Facebook, YouTube, Instagram etc. aid distance learning in teaching of OTM courses	250	-	-	-	4.00	2.00	Agreed
2.	Use of class blog for discussion on social channels, the web	135	40	30	45	3.10	1.76	Agreed

3.	Participation in video chat and share information for research	110	100	-	40	3.10	1.76	Agreed
4.	Creation of video meeting with Google meet using a computer or mobile device	150	70	20	10	3.40	1.84	Agreed
5.	Exchange messages between Lecturers and Students through e-learning process, email	90	90	50	20	3.00	1.73	Agreed
6.	Use of teleconferencing, audio graphics and Google books	120	110	-	20	3.20	1.78	Agreed

**Source: Field Survey, 2024**

Table 1 shows the mean rating and standard deviation of respondents on the social media technology that aid distance learning in teaching of OTM course ranges from 3.00 to 4.00 and 1.73 to 2.00 respectively which shows that lecturers and students agreed to the social media technology that aid distance learning in teaching of OTM course

## RQ2: What are the benefits and prospects of distance learning in the teaching of OTM Course?

Table 2: Mean Rating and Standard Deviation of the benefits and prospects of distance learning in the teaching of Office Technology and Management Course

S/N	Item Statements	RESPONSES						
		SA	A	D	SD	X	STD	DECISION
7.	Increases people's access to education	150	100	-	-	3.60	1.89	Agreed
8.	Distance learning assists to meet the academic needs of people as a result of admission problems	100	100	-	50	3.00	1.76	Agreed
9.	Distance learning is flexible and student-centered	120	100	30	-	3.40	1.84	Agreed
10.	Distance learning are more Versatile in the utilization of ICT equipment	250	-	-	-	4.00	2.00	Agreed
11.	Distance learning model encourages learning with work	250	-	-	-	4.00	2.00	Agreed

**Source: Field Survey, 2024**

Table 2 shows the mean rating and standard deviation of respondents on the benefits and prospects of distance learning in the teaching of Office Technology and Management Course ranges from 3.00 to 4.00 and 1.76 to 2.00 respectively which shows that lecturers and students agreed to the benefits and prospects of distance learning in the teaching of OTM course.

### RQ3: What are the inhibiting factors to the use of distance learning in the teaching and learning of OTM course?

Table 3: Mean Rating of inhibiting factors to the use of distance learning in the teaching and learning of Office Technology and Management course

S/N	Item Statements	RESPONSE						
		SA	A	D	SD	X	STD	DECISION
12.	Electricity supply affect distance Learning in OTM course	250	-	-	-	4.00	2.00	Agreed
13.	Lack of infrastructural facilities affect the distance learning model in OTM course	150	100	-	-	3.60	1.89	Agreed
14.	High cost of computers and laptops for personal use of Students	150	70	-	30	3.40	1.84	Agreed
15.	Inadequate financial resources available in training institution for provision of computers and allied facilities	150	60	25	15	3.40	1.84	Agreed
16.	Poor internet connectivity	140	80	-	30	3.30	1.85	Agreed
17.	Lack of self-interest among students for effective use of computers	120	100	-	30	3.20	1.78	Agreed
18.	Lack of face-to-face interaction with Lecturers and fellow learners	100	100	50	-	3.20	1.78	Agreed
19.	Inadequate computer technologist available for maintenance and guidance to students	110	120	-	20	3.30	1.82	Agreed
20.	Constant training is not provided to OTM lecturers by tertiary Institutions Management	250	-	-	-	4.00	2.00	Agreed

Source: Field Survey, 2024

Table 3 shows the mean rating of respondents on the inhibiting factors to the use of distance learning in the teaching and learning of Office Technology and Management courses ranges from 3.20 to 4.00 which shows that lecturers and students agreed to the inhibiting factors to the use of distance learning in the teaching and learning of OTM courses.

### Discussion of Findings

The study discovered that distance learning assists to meet the academic needs of people as a result of admission problems due to the few number of tertiary institutions running the programme. The results showed that social media technology aid distance learning in teaching of OTM courses through the use of live streaming like Facebook, YouTube, Instagram etc. In addition, creation of class blog for discussion on social channels, participation in video chat and share information for research, and creation of video meeting with Google meet using a computer or mobile device.

From the results, it is obvious that distance learning brought numerous benefits and prospects in the teaching of OTM Course. It increases people's access to education. Many people who might



not be able to continue their OTM programme immediately they come out of school and get themselves employed can acquire higher education and professional qualification with ease and conveniently without leaving their jobs to improve themselves. OTM programme in distance learning assists to meet the academic needs of people as a result of admission problems. Distance learning is flexible and student-centered, because OTM students have the freedom to decide when and where learning will take place unlike the conventional school where there are fixed periods for the students to be in the classrooms listening to their lecturer. It is observed that, lecturers and students of OTM are more versatile in the utilization of ICT facilities unlike in the traditional institutions where they may not have access to ICT facilities.

In spite of the benefits and prospects of distance learning in the teaching and learning of OTM course, it poses a lot of challenges for the programme. Incessant electric power supply is a challenge inhibiting against distance learning in OTM course. Students who live in the rural areas not connected to the national grid and those living in the cities and towns may be frustrated from pursuing OTM course via distance learning if they have no access to regular and stable electric power supply that is pertinent for effective teaching and learning practical skills in OTM course. Lack of infrastructural facilities and high cost of computer and laptops for personal use of students affects the distance learning model in OTM course. Inadequate financial resources available in training institution for provision of computers and allied facilities; substantial money is required to get the OTM course off the ground, and to expand the programme much money is required for ICT and consumables. Furthermore, maintenance culture, limited technician and technical supports for the necessary and needed technologies are also major constraint for the programme. Spare parts, software and hardware of these technologies are not developed locally but developed in Europe and other developed countries to suit their own and earn living hence they are not easy to get by in Nigeria when needed. The bottlenecks in internet connectivity particularly constitute a threat to the effective operation of distance learning OTM course. In Nigeria where the cost of accessing internet is very high; distant learning students are exorbitantly charged on hourly basis to make use of cybercafé for their work in spite of the slow rate of servers and poor service rendered. Constant training is not provided to OTM lecturers by tertiary institutions management and lack of interest among students in the use of computers and allied resources for learning.

## **Conclusion**

Distance learning model is a form of electronically-supported teaching and learning and the type of formal education that can also takes place outside the conventional school system without face-

to-face interaction between the facilitators and learners. To implement distance learning model in the teaching and learning of OTM course, some basic elements that are imperatives for effective distance learning model are resources in terms of human, financial, instructional delivery and evaluation procedure. Adoption and implementation of distance learning model in the teaching and learning of OTM course in Polytechnics cannot be over-emphasised because it will enable large number of people who could not have access to conventional institutions to be educated. Adopting distance learning model in the teaching and learning of OTM course is flexible, gives room for individual differences and cordial relationship among students. Despite all its benefits, it is also faced with some constraints that may be hindering its effective implementation, namely, inadequate funding, internet connectivity, lack of knowledge and skills, technophobia among others.

### **Recommendations**

1. Government should in tandem with the UNESCO recommendation allocate at least 26% of annual budget to education, as this will aid the effective adoption and implementation of ICT facilities in Office Technology and Management for distance learning use.
2. Management of schools should not divert the funds released by the government for the procurement of facilities and resources to another area; but the fund should be used for the procurement of high quality facilities and resources required for the take-off of distance learning model in the teaching and learning of OTM programme in polytechnics.
3. Provision of stable power supply is a necessity for effective and successful implementation of any ICT programme via distance learning therefore the issue of erratic power supply should be aggressively addressed by the government so as to reduce other costs that might be incurred from alternative sources of providing standby power supply.
4. Government at all levels should embark on massive computer literacy for lecturers and students. Lecturers and students should be given computers/laptops free of charge.
5. OTM lecturers in polytechnics should be trained and retrained on the use of the resources and facilities for distance learning model in order to avoid resistance to change and to be relevant in their chosen career.
6. Government should provide stable internet service at a cheaper rate for OTM students like other developed nations to enable them access it at any point in time in order to make distance learning model economical, accessible and beneficial to them.

7. Government should consider e-learning as an integral part of academic activities which needs to be routinely supported so that e-learning can become almost obligatory to mission statements and strategic plans.

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## **Welfare Facility: A Determinant Factor for Commitment of Office Managers in Selected Polytechnics in South West, Nigeria**

**<sup>1</sup>Oluwaseye J. IGE; <sup>2</sup>Olayinka Rhoda DAVID; <sup>3</sup>Elizabeth O. Ojo, PhD;**

<sup>1,3</sup>Department of Office Management & Technology, Yaba College of Technology, Yaba

<sup>3</sup>Vocational Education Department, Yaba College of Technology, Epe, Lagos.

<sup>1</sup>+234-813-114-8653; oluwaseye.ige16@gmail.com

<sup>2</sup>+234-806-309-3766; olayinka.david@yabatech.edu.ng

<sup>3</sup>+234-802-304-5382; ojoelizabeth03@gmail.com

### **Abstract**

*The study examined the relationship between welfare facilities and office managers' job commitment in selected polytechnics in South West, Nigeria. A descriptive survey design was adopted. The population was 212 office managers of three selected polytechnics – The Polytechnic Ibadan, Oyo State; Federal Polytechnic Ede, Osun State; and Yaba College of Technology, Yaba, Lagos. The total enumeration was adopted as the study's sample size due to its fewness. The data were primarily sourced and the instrument reliability test produced a Cronbach's Alpha value of 0.81. Out of the 212 expected responses, 149 were successfully obtained. Data was obtained through an e-questionnaire and the hypothesis was tested using the Pearson Correlation model at the significance level of 0.05. The result [ $n=149$ ,  $r= 0.837^{**}$ ,  $p\text{-value} < 0.00$ ] showed that there was a strong positive relationship between welfare facilities and office managers' job commitment. The findings revealed that office managers who have access to welfare amenities will demonstrate higher levels of commitment to their jobs. The study concluded that management investment in welfare facilities is not a waste but a contributing factor to boosting employee commitment and performance. It was recommended among others that management should provide a supportive work environment and comprehensive welfare amenities for office managers and other employees to foster a culture of commitment, high performance, and long-term sustainability.*

**Keywords:** Employee Commitment, Employee Welfare, Job Satisfaction, Office Administration, Work Environment,

### **Introduction**

An office is regarded as an important area or facility for carrying out any official activities, duties, or transactions. An office is a location where business operations take place, such as a room or department where clerical tasks are completed. It is a location where professional and business transactions are conducted. A location within the organisation where all types of operations are managed (Fayard, Weeks, & Khan, 2021). In today's global corporate environment, there has been a significant rise in office work as a result of economic expansion, technological innovation, and the creative ways and strategies that most organisations have used to manage their daily operations. Hence, office work has been given importance. The office is overseen by professional, trained, and well-groomed personnel known as office managers. These experts employ cutting-

edge tactics and procedures to improve day-to-day business operations. As the firm's commercial activities and operations grow, so will the paperwork and general tasks of office managers, who are the lifeblood of every organisation. Meanwhile, provision of a secure and healthy working environment and superior welfare facilities would enhance office managers' loyalty to the organisation.

Employee commitment refers to an employee's psychological attachment and devotion to a company (Ekejiuba, 2023). It reflects employees' perceptions about the company for which they work. Employee commitment refers to an employee's excitement for his or her given responsibilities at work. Employees' sense of responsibility for the organisation's aims, purpose, and vision. Employees that are motivated are more devoted to their employment and the organisation. When motivation is low or lacking, dedication to work suffers significantly (Olai, 2023). This indicates that the more motivated people are, the more dedicated they will be. Humans are able to make significant contributions to economically productive activities because they are influenced by internal and external factors. Commitment to work is an attitude that employees have toward their organisation that is impacted by a range of factors, both internal and external. Office managers are not exempt, and they must be given special attention owing to their type of job tasks. Employee commitment refers to office managers' emotional and psychological attachment to their positions, which reflects their desire to spend effort, time, and attention to the organisation's goals.

An office manager is in charge of arranging work, managing activities, and providing administrative support (Abubakar & Muhammad, 2023). Office managers in business organisations have significantly improved and now have new job duties to perform in their varied positions as a result of their organisation's use of expanding workplace technology tools. Their original responsibilities in the business sector changed dramatically from manager-dictated notes and letters to typewriting and shorthand dictations, answering phones, and processing mail. Office managers' job dedication is critical in ensuring organisational efficiency and success. However, a variety of factors, such as the availability and quality of workplace wellness amenities, may have an impact on office managers' job dedication. The issue arises from the potential relationship between the adequacy of welfare facilities and the devotion of office managers to their obligations. Despite widespread acknowledgment of welfare amenities as an essential component of the workplace, there is a gap in research into the direct impact of these facilities on the job commitment of office managers. Welfare facilities include amenities such as rest places, healthcare benefits, recreational spaces, transportation services, cafeteria offerings, housing

schemes, flexible working hours, and childcare services. The size and quality of these amenities will not only greatly affect the entire work environment, but also contribute to the dedication and high performance of office managers.

Employee welfare refers to the total well-being of employees, which includes their physical, mental, social, and financial health. An investment on employee wellbeing is an investment toward organisational growth and development (Makanjuola, Shaibu, & Isijola, 2021). Employers who create a supportive and healthy workplace gain the rewards of a happy, productive, and engaged staff. Employee welfare is responsible for providing a safe and healthy working environment for all employees and that includes taking precautions to avoid accidents, provision of the necessary safety equipment, and adhering to health and safety requirements. Employee welfare such as services, facilities and amenities as adequate canteens, rest and recreation facilities, transportation services, arrangements for travel to and from work, and employee accommodation at a distance from their houses and such other services, amenities and facilities as contribute to improve the conditions under which employees are employed.

Non-statutory welfare facilities are those that provide services outside of the workplace, such as housing, recreation, medical, and transportation. Extra-mural activities that take place outside of the establishment, such as maternity benefits (Udewo, Ugwu, & Oluka, 2023). Extracurricular activities offered outside of the group's buildings vary by organisation. Social insurance measures such as provident fund and rehabilitation, gratuity pension, physical fitness and efficiency, education facilities, family planning and child welfare, housing facilities, cultural activities, recreational facilities including sports, and transportation to and from work.

The quality of welfare facilities will therefore foster employee commitment, satisfaction, and well-being. The availability of aforementioned facilities and amenities can result in better job satisfaction, lower turnover, and more employee engagement. Despite the widely acknowledged relevance of employee welfare, empirical information is scarce on its influence on the dedication of office managers in Nigerian polytechnics. The study identifies numerous significant gaps and limitations. In previous studies, there were tremendous deficits in critical welfare programs such as housing allowances, recreational facilities, childcare services, and counselling services and they were poorly rated and were rejected by the employees (Bolou-Sobai et al., 2024; Makanjuola, Shaibu, & Isijola, 2021; Beloor et al., 2020; Cho, 2018). This shows that, while essential services such as healthcare and cheap transportation may be provided and acceptable, the entire welfare assistance system is insufficient. The wide range of replies suggests that these resources are not



always available or not of good quality across the institutions. If these deficiencies are effectively addressed and given much attention, the expansion of the scope and quality of welfare facilities and services would potentially and dramatically increase the commitment and satisfaction of office managers at these polytechnics. Hence, this study seeks to close these gaps by investigating the relationship between welfare facilities and the degrees of commitment of office managers at the selected polytechnics in South West Nigeria.

### **Objectives of the Study**

This main objective is to investigate the significant relationship between welfare facilities and the commitment of office managers in polytechnics in South West, Nigeria. The specific objectives are to:

1. assess the level of office managers' commitment to polytechnics in South West, Nigeria,
2. identify the welfare facilities provided for office managers in polytechnics in South West, Nigeria, and
3. examine the significant relationship between welfare facilities and the commitment of office managers in polytechnics in South West, Nigeria.

### **Research Questions**

The study provides answers to the following questions:

1. What is the level of office managers' commitment to polytechnics in South West, Nigeria?
2. What are the welfare facilities provided for office managers in polytechnics in South West, Nigeria?

### **Hypothesis**

The below null hypothesis was tested at a 0.05 level of significance:

H<sub>01</sub>: There is no significant relationship between welfare facilities and the commitment of office managers in polytechnics in South West, Nigeria.

### **Review of Related Literature**

The idea of commitment in the workplace is a well-studied and fascinating aspect of employee behaviour. It has had an impact on how employees think about commitment to the workplace, occupation, workgroup, representative employee unions, and work itself (Makanjuola et al., 2021). Job commitment is defined as a strong belief in and recognition of the foundation's goals and qualities (Iqbal et al., 2021); an eagerness to put forth significant effort for the organisation

(Ogini, 2020); and a strong desire to continue participating in the establishment (Popoola & Fagbola, 2023). A decline in job commitment level will tremendously affect organisational overall performance. Commitment, interest, and a good attitude toward the job immensely contribute to increased work effort and, as a result, reduce organisational expenses (Mwaniki, Njuguna, & Gakobo, 2021). Employee commitment is a multifaceted belief that leads to a variety of beneficial workplace outcomes, including less absenteeism and relocation, citizenship behaviour, work effort, and enhanced job performance. It is the intensity of employees' identities to participate in a certain organisation (Cho, 2018). Commitment is one of the most extensively researched topics since it influences job performance. The assertion that committed employees are important assets needed to effectively improve the execution of the institutions. In other terms, commitment is characterized as a relationship between the employees and their employers (Mwaniki et al., 2021). According to Popoola and Fagbola (2023), job commitment is the attachment that employees have toward their jobs and is a representation of their level of psychological engagement to the job.

A successful manager or employee can demonstrate commitment in their work by serving and caring for the client. Committed employees are proud of their organisation and they express this honour in their behaviours. Employees fulfill their commitment in different ways and achieve it by creating a suitable organisational environment, supporting top managers and observing the basic values of the organisation (Uwannah, 2023). Committed employees always present a strong and positive image to others and all situations act as a positive force; but this should not be confused with selfishness or self-centeredness (Makanjuola et al., 2021). Commitment is manifested by demonstrating independence of action, acquiring the skills needed to apply management, and accepting constructive criticism. According to Mwaniki et al. (2021), employee commitment is the level of dedication, loyalty, and engagement that individuals bring to their work and the organisation. It is a crucial factor in determining the overall success and effectiveness of an organisation. Employee commitment is a multifaceted concept influenced by various factors. Organisations that actively nurture and maintain high levels of commitment among their employees can reap numerous benefits in terms of performance, stability, and reputation. The concept of employee commitment has been used differently in various studies but in this context, the researchers mainly focus on how the provision of welfare facilities can boost office managers to remain committed to their institutions.

Welfare facilities are those that are necessary for the well-being of your employees, such as washing, toilet, rest and changing facilities, and somewhere

clean to eat and drink during breaks (Alam et al., 2020). Welfare facilities means anything done for the comfort and (intellectual or social) improvement of the employees, over and above the wages paid. In simple words, it means the efforts to make life worth living for workmen. It includes various services, facilities and amenities provided to employees for their betterment. These facilities are expected to be provided by the management of the institution or voluntarily provided by some progressive entrepreneurs (e.g. facilities built by Alumni of the institutions for staff members), or statutory provisions like Corporate Social Responsibility (CSR), that could compel corporate institutions to provide these amenities (e.g. Basketball Court at Ilupeju, Oshodi, Lagos State that was provided by Nestle Nigeria Plc); or being undertaken by the government (e.g. TETFund training and development) or staff union (e.g. common room, access to loan and financial counselling services).

Employee welfare should be understood as such service, facilities and amenities which may be established in or in the vicinity of undertakings to enable the persons employed in them to perform their work in healthy and peaceful surroundings and to avail of facilities which improve their health and bring high morale (Beloor et al., 2020; Bolou-Sobai et al., 2024). Welfare processes encourage the competence of employees. The welfare methods provide through the company will have direct influence on the fitness, physical and emotional effectiveness awareness, self-esteem and general productivity of the employee and so causal to the advanced production (Bolou-Sobai et al., 2024). Welfare facilities provided outside the work place are known as non-statutory welfare facilities. They include provision of housing, recreation, medical, transport facilities and so on.

### **Review of Empirical Studies**

In the study of Bolou-Sobai et al. (2024), they investigated the relationship between employee welfare and job commitment among non-academic senior staff of tertiary institutions in Bayelsa State, Nigeria. A correlational study design was used for a population of 1,730 senior non-academic workers at tertiary institutions in Bayelsa State, with a total of 325 respondents among the targeted respondents. Data were acquired using a questionnaire prepared by the researcher. They discovered that welfare is strongly associated with employment dedication. And they concluded that excellent and positive employee welfare of an institution is the result of proper employee happiness, employee welfare packages, long-term strategic movements of institutions, effective policies, and so on.

According to the study of Mwaniki et al. (2021), employee's commitment is a major problem facing many organisations worldwide. The purpose of their study was to ascertain the impact of

employee welfare on employee commitment at Judicial Service Commission. The descriptive research design was used and the population consisted of 412 Judicial Service Commission personnel from various roles and divisions. The sample size was determined using a stratified random selection approach with 213 chosen. Data were gathered via a questionnaire and analysed using both descriptive and inferential statistics. They discovered that employee welfare accounts for 98% of the variation in employee commitment at Kenya's judicial service commission. They conclude that employee welfare in an organisation is a significant component in determining employee commitment. Consequently, they advised that the Judicial Service Commission create and execute an effective welfare strategy for its employees.

In a study carried out in Nigeria by Mekanjuola et al. (2021), they examined the effects of welfare on employees' commitment in public service organisation. The survey and exploratory research designs were widely used. They used stratified sampling to choose 154 participants and collected responses via a standardized five-point Likert rating scale questionnaire. The data collected was examined using the E-Views statistics software. According to the research, employees were denied certain benefits, which harmed their motivation. The survey also found that employees firmly felt that welfare had a substantial impact on their dedication. They advised that NESREA adhere to the welfare packages provided in PSR to encourage real dedication, loyalty, and honesty toward enhanced performance.

Beloor et al. (2020) examined the influence of welfare facilities on job satisfaction of employees working in garment industries. The study used a descriptive methodology and a convenience sample technique to collect 224 answers from 51 garment industries in and around Bangalore Region, Karnataka State, India. The data was evaluated using Chi Square and Pearson correlation analysis. They discovered a link between the provision of social services and work satisfaction. The study found that welfare facilities had a considerable influence on work satisfaction.

In another study, Alam et al. (2020) whose main purpose was to assess the relationship between wages and benefits, welfare facilities, employee work motivation and employee productivity. They used a deductive approach, an explanatory research design, and a quantitative methodology. The data was mostly gathered through a questionnaire survey. A systematic probability sampling strategy is used to choose 500 samples from the target population. Subsequently, SPSS and SEM with Smart-PLS were used to analyse and develop the model. The results of the research showed that all seven hypotheses were supported.

## Methodology

The study adopted a descriptive survey research design and the study areas were The Ibadan Polytechnics, Ibadan, Oyo State (41); Federal Polytechnic, Ede, Osun State (72); and. Yaba College of Technology, Yaba, Lagos (99). The population was 212 office managers and the total remuneration was adopted as the sample size using the convenience sampling method. Hence, the sampling technique was not observed as the study covered the entire population size. The data were primarily sourced through the use of e-questionnaire. The instrument reliability test was conducted and it produced a Cronbach's Alpha value of 0.81. Out of the 212 expected responses, 149 were successfully obtained. The data were analysed using both descriptive [mean and standard deviation] and inferential statistics [using the Pearson's correlation coefficient to test the null hypothesis at a significance level of 0.05].

## Results

**Table 1: Demographic Data Analysis**

Characteristics	Frequency	Percentage (%)
<b>Gender</b>	<b>Male</b>	28
	<b>Female</b>	121
<b>Marital Status</b>	<b>Married</b>	109
	<b>Single</b>	40
<b>Age Range</b>	<b>Less than 20 years</b>	4
	<b>20 - 30</b>	28
	<b>30 - 40</b>	36
	<b>41 - 50</b>	56
<b>Educational Qualification</b>	<b>51 years and above</b>	25
	<b>NCE/ND</b>	13
	<b>HND/B.Sc.</b>	108
	<b>M.Sc./MBA</b>	28
<b>Length of Service</b>	<b>PhD</b>	0
	<b>Less than 5 years</b>	15
	<b>6 - 10</b>	33
	<b>11 - 15</b>	38
	<b>16 - 20</b>	44
	<b>20 years plus</b>	19

**Source:** Field survey, 2024

Table 1 reveals that most respondents were female (81.2%), and their male counterpart accounting for 18.8%. Also, most respondents were married (73.2%) while 26.8% representing the percentage of those singles. The most common age group is 41-50 years (37.6%), followed by 30-40 years (24.2%) and 20-30 years (18.8%), with a lesser proportion of individuals under 20 (2.7%) and over 51 (16.8%). For the educational background, most respondents (72.5%) have HND/B.Sc. degrees, while 18.8% hold M.Sc./MBA degrees, 8.7% hold NCE/ND respectively, but none of them holds a PhD. Respondents' service duration, showed that most respondents (29.5%) worked

for 16-20 years, followed by 11-15 years (25.5%), 6-10 years (22.1%), more than 20 years (12.8%), and fewer than 5 years.

**Table 2: Commitment of Office Managers in Polytechnics in South West, Nigeria**

S/N	Statements	Mean	StDev	Remark
1	I have a strong feeling for my institution	3.32	1.82	Accepted
2	I have a strong desire to continue working with my institution	3.46	1.86	Accepted
3	I am emotionally attached to the success of my institution	3.59	1.89	Accepted
4	I maintain a high level of relationships with other employees in my institution	3.68	1.92	Accepted
5	I do not feel like working when I am not motivated	3.42	1.85	Accepted
6	I invest my time, energy, skills and intellectual to meet my institutional goals	3.29	1.81	Accepted
<b>Average mean and standard scores</b>		<b>3.46</b>	<b>1.86</b>	

**Source:** Field survey, 2024

Table 2 showed the outcomes of the mean and standard of office managers who have a strong feeling for their institutions as 3.32 and 1.82 respectively. It implies that office managers who participated in this study generally have a strong emotional attachment to their institutions and that showed a high level of commitment to their jobs. With the mean and standard deviation scores of 3.46 and 1.86, the outcomes revealed that office managers are willing to continue working with their institutions and that demonstrated a high level of commitment. The mean and standard deviation of Office managers' emotional attachment to the institutional success were 3.59 and 1.89; it implies that office managers have a positive emotion towards their institutions' success. The mean and standard deviation scores of office managers' maintenance of high-level relationships with other employees were 3.68 and 1.92 respectively; this infers that office managers maintain strong relationships with their colleagues and showed a high level of commitment to teamwork. The mean and standard deviation scores of 3.42 and 1.85 indicated that most office managers will feel distorted if they are not motivated and that showed their level of commitment to responsibilities. Office managers' investment of energy, time, skills, and intellect to meet institutional goals showed mean and standard deviation scores of 3.29 and 1.81 respectively. The outcomes showed that office managers actively invest their resources to contribute to the achievement of institutional goals. In general, the average mean and standard deviation scores were 3.46 and 1.86 respectively. This implies that there is a high level of commitment among office managers in polytechnics in South West, Nigeria.

**Table 3: Welfare Facilities Provisions for Office Managers in Polytechnics in South West, Nigeria**

S/N	Statements	Mean	StDev	Remark
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1	Provision of healthcare facilities	3.29	1.81	Accepted
2	Provision of housing allowances or staff quarters	2.19	1.48	Rejected
3	Provision of transportation services at discount rate	3.12	1.77	Accepted
4	Provision of recreational centers	1.39	1.18	Rejected
5	Provision of childcare services for nursing mothers	1.17	1.08	Rejected
6	Provision of counseling services	2.27	1.51	Rejected
Average mean and standard scores		2.24	1.47	

Source: Field survey, 2024

In Table 3, as regards the welfare facilities provided by the polytechnics in South West, Nigeria for office managers, the survey revealed a positive welfare provision (mean 3.29; StDev. 1.81) for office managers in the institution. The mean and standard deviation of housing allowances or staff quarters provision were 2.19 and 1.48 respectively. This result implies that management of these institutions would need to improve the housing allowances or adequately provided staff quarters for office managers. The mean and standard deviation scores of transportation services at discount rate were 3.12 and 1.77 respectively. This indicates that there is a potential and positive improvement in this aspect of welfare provision. The mean and standard deviation scores of the provision of recreational centers were 1.39 and 1.18 respectively; it implies there is insufficient of these facilities for office managers.

The provision of childcare services for office managers who are nursing mothers revealed the mean and standard deviation scores of 1.17 and 1.08 respectively; the outcome suggests that there is a need to enhance these welfare facilities and if not provided, it should be. The mean and standard deviation scores of provision of counselling services revealed 2.27 and 1.51 respectively. The aspect was unaccepted. This infers that the counseling services may not be provided in some institutions while in other institutions they are not adequately provided for office managers. In all, the average and standard scores were 2.24 and 1.47 respectively. This implies that management should adequately make provisions welfare facilities for office managers in polytechnics in South West, Nigeria. And if to enhance office managers' commitment to work, these facilities such as housing allowances, recreational centers, childcare services, and counseling services urgently need government or management attention.

**Table 4:** Pearson Correlation Analysis of Welfare Facilities and Commitment of Office Managers in Polytechnics in South West, Nigeria

Statistics	(OMC)	(WF)
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<b>Welfare Facilities (WF)</b>	Pearson Correlation	1	.0837**
	Sig. (2-tailed)		.000
	n	149	149
<b>Office Managers' Commitment (OMC)</b>	Pearson Correlation	.0837**	1
	Sig. (2-tailed)	.000	
	n	149	149

\*\*Correlation is significant at the 0.05 level (2-tailed)

In Table 4, the Pearson correlation result [ $r = 0.837^{**}$ ,  $p$ -value  $< 0.00$  and sample ( $n$ ) = 149] showed that the two variables (Welfare Facilities and Office Managers) were significantly related. Based on this result, the null hypothesis is rejected and the alternative is accepted that there is a strong significant relationship between welfare facilities and commitment of office managers in polytechnics in South West, Nigeria.

## Discussion of Findings

### Research Question 1: What is the level of office managers' commitment in polytechnics in South West, Nigeria?

The survey outcomes showed that employees have a generally positive mindset toward their institution, with average responses suggesting approval across all examined assertions, resulting in an overall mean of 3.46. Employees expressed the greatest feelings about sustaining ties with colleagues (mean: 3.68) and emotional attachment to the institution's success (mean: 3.59), while the lowest mean score was for investing time and talents in institutional objectives (3.29). The standard deviations, which average 1.86, indicate substantial variety in individual responses, demonstrating that, while overall involvement is favourable, employee experiences and perspectives differ greatly. These findings are in accordance to the views of Popoola and Fagbola (2023) that described job commitment as the attachment that employees have toward their jobs and is a representation of their level of psychological engagement to the job. In addition, Mwaniki, Njuguna, and Gakobo (2021) asserted that commitment, interest, and a good attitude toward the job immensely contribute to increased work effort and, as a result, reduce organisational expenses.

### Research Question 2: What are the welfare facilities provided for office managers in polytechnics in South West, Nigeria?

The outcomes of research question 2 showed that the mean scores for most of the statements were below the acceptable level, with an overall average mean of 2.24. Accepted provisions include healthcare facilities (mean: 3.29) and discounted transportation services (mean: 3.12), indicating moderate satisfaction. However, housing allowances or staff quarters (mean: 2.19), recreational

centers (mean: 1.39), nursing mother childcare services (mean: 1.17), and counselling services (mean: 2.27) are also rejected, showing major shortages in these categories. The standard deviations, averaging 1.47, indicate significant heterogeneity in replies, revealing various perspectives and experiences with welfare facilities among office managers. These outcomes are in line with the finding of Beloor et al (2020) on the study of the significant relationship between employee welfare and job satisfaction and they found that welfare facilities had a considerable influence on job satisfaction. In addition, Makanjuola, Shaibu, and Isijola (2021) asserted that employee welfare is important in human resource management because it influences commitment to achieving goals in business and public sector enterprises. In the same view, Mwaniki, Njuguna, and Gakobo (2021) concluded in their study that employee welfare in every business plays an essential role in determining employee commitment.

In addition, the hypothesis testing outcome [ $n=149$ ,  $r=0.837^{**}$ ,  $p\text{-value}<0.00$ ] indicated that there is a strong significant relationship between welfare facilities and commitment of office managers in polytechnics in South West, Nigeria and the result is in accordance to the view of Bolou-Sobai et al. (2024), they found there was a positively and a strong significant relationship between employee welfare and job commitment of non-academic senior staff that they examined. They recommended among others that management should provide better employee welfare packages to improve employee commitment to work. In the same vein, Mwaniki et al. (2021) affirmed that employees' commitment has always been a major challenge many organisations encounter globally. In their recommendation, they suggested to the management to design and implement effective welfare policy for their employees.

In addition, Makanjuola et al. (2021) discovered that employees were truly denied some welfare; though, it might not be sufficient, some employees are still commitment to the organisation while others chose to leave. They recommended that the government agency they covered in their study should adhere strictly to the welfare packages stipulated in PSR for easy driving genuine commitment and loyalty of the employees. The findings of Beloor et al. (2020), in their study in Bangalore Region, Kamataka State, India, were in accordance to the findings of this study. They affirmed that non-provision of welfare facilities could easily influence job satisfaction of the employees.

The study found a strong positive correlation between welfare facilities and office managers' job commitment. When office managers have access to comprehensive welfare benefits, they are more

likely to show more dedication to their positions and the business (Amos, 2021). These findings are consistent with previous studies emphasizing the relevance of employee welfare in developing organisational commitment. The findings also emphasise the value of management investment in welfare facilities. Rather than being considered a superfluous investment, offering complete welfare facilities has been proven to help increase employee dedication and performance. This means that companies, especially polytechnics in south-west Nigeria, should prioritize provision of supportive work environments and complete welfare facilities as part of their strategic approach to encouraging dedication, high performance, and long-term sustainability.

## **Conclusion**

The study examined the relationship between welfare facilities and office managers' commitment at polytechnics in South West Nigeria. The outcomes of this study highlight the importance of welfare amenities in molding office managers' commitment at polytechnics in South West Nigeria. By putting employee well-being first and investing in comprehensive welfare programs, educational institutions may foster a culture of loyalty, contentment, and productivity among office managers, eventually contributing to organisational success and growth in the educational sector. The study found that providing appropriate welfare facilities correlated favorably with higher commitment among office managers. Access to healthcare benefits, housing help, transportation services, childcare support (many office managers are nursing moms), and leisure activities adds to a pleasant work environment that supports employee loyalty and engagement. Furthermore, the study found that when office managers feel supported by their organisation through the provision of these fundamental amenities, they are more likely to be committed to accomplishing organisational goals. Office managers are more likely to stay with an organisation that values their well-being, cutting turnover rates and related recruitment expenses.

## **Recommendations**

Based on the study's findings and conclusion, it was recommended that management should regularly analyse office managers' requirements and preferences for welfare facilities; they should ensure access to quality healthcare services such as medical insurance, frequent check-ups, and wellness programs; they should also assist office managers with housing needs, including loans, subsidies, affordable housing schemes, and staff quarters, as many are nursing mothers; management should also provide transportation services or subsidies to address commute issues of office managers, especially in locations with limited public transit infrastructure; they should also ensure open and honest communication with office managers regarding welfare facilities and

eligibility requirements; and they should monitor welfare programs' success through feedback, performance indicators, and staff surveys.

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## Cross-Cultural Communication Challenges in the Digital Age

ONCHE, Virginia Ochanya

vidogwu39@yahoo.com; +234-080-2333-7899

### Abstract

*This abstract examines the complexities and hurdles of cross-cultural communication in the digital age, highlighting the impact of technology on intercultural interactions and the challenges that can hinder effective communication across diverse cultural landscapes. Digital communication challenges differing communication styles and norms across cultures, making it crucial to navigate nuances in language, tone, and non-verbal cues. Misinterpretation, cultural biases, and misunderstandings can arise due to the absence of face-to-face interaction. The speed and brevity of digital platforms can impact relationships and collaboration. Time zones also disrupt real-time communication, necessitating meticulous planning and decision-making to maintain project timelines and efficiency. The digital age has exacerbated cross-cultural communication challenges through social media, promoting global connections but also amplifying cultural clashes. Despite these challenges, technology offers innovative solutions like translation tools and virtual collaboration platforms, fostering a globalized workforce and overcoming language barriers. Cross-cultural communication in the digital age requires cultural competence, adaptability, and digital tools. Addressing these challenges is crucial for global understanding, collaboration, and success in the increasingly interconnected world.*

**Keywords:** Cross-cultural, Communication, Digital Age, Technology and Intercultural Interactions

### Introduction

Every day, the world grows increasingly interconnected. We live in a rapidly changing, digitally globalized environment. One of the key causes of such developments is the rising role of new generations, known as "Millennials" (born between 1980 and 1995) and Generations (born after 2000). These "living-online" and "digitally-thinking" young people have significantly altered our planet's social and business landscape. Goods, services, finance, people, and data all move considerably faster and easier nowadays. Another big transformation in social and corporate life was caused by digitalization, which provided individuals with access to worldwide marketplaces. Social media and other digital channels greatly aided all of these processes. Organisations now connect job searchers with employers (almost 400 million professionals have LinkedIn accounts), freelancers with assignments (40 million individuals find freelance work on digital platforms), and small start-ups with financing via sites such as Kickstarter, among other things. Today, around 50 million SMEs use Facebook (the world's largest social network with over 2 billion users), and approximately 30% of their fans are international (McKinsey Report, 2016). For many years, global business was the privilege of large multinational corporations with ample financial

resources. Individuals can "operate globally" by using Facebook or Instagram accounts, or selling handcrafted things on Amazon or eBay. Such opportunities, combined with the ease of travel and communication in general, have heightened interest in cross-cultural communication skills.

Communication enables the evolution of human culture, and communication is the means by which culture is passed down from generation to generation. In other words, culture and communication are inextricably linked (Olaniran & Agnello, 2017). Difficulties in communication arise as a result of variations in language, beliefs, or values among the interlocutors concerned. All are aspects of culture. Furthermore, communication experts believe that nonverbal communication accounts for roughly two-thirds of all communication activities (Novinger 2018). These actions are heavily impacted by the communicator's culture (Novinger 2018). Garcia and Wong (2017) emphasise that culture always affects the way interlocutors communicate, because competent speakers know what is or is not acceptable and appropriate in a given context, because individuals have been socialised into a particular culture and have been made aware of the rules and expectations from an early age (Olaniran & Agnello, 2017).

Nigeria, Africa's most populous country, is estimated to have over 400 different languages and over 300 distinct ethnic groups (Awogbade 2014). Communication among these culturally diverse people is inevitable. Communication encompasses all activities that transfer meaning, whether through the spoken word, nonverbal actions, or general body language. Communicators must draw on such factors as their previous experience, cultural affiliation. Communication patterns refer to how people interact and communicate with one another using digital platforms and technologies. These patterns cover a wide range of online communication topics, including language use, messaging behaviour, content sharing, and the use of digital symbols like emojis or emoticons. These trends can be modified by cultural conventions, society ideals, and technology advancements. Online communication habits in the United States have changed dramatically in recent years, reflecting the country's increasing use of digital technologies. One significant development is the increase in social media usage.

According to the Pew Research Centre, as of 2021, over 59% of adults in the Nigeria reported using social media platforms, with Facebook, YouTube, and Instagram among the most popular options. These platforms include a variety of communication methods, including text-based updates, image and video sharing, and real-time chat, resulting in a varied spectrum of online communication patterns. In addition to social networking, instant messaging applications have

become popular forms of online communication in the United States. WhatsApp, Facebook Messenger, and Apple's iMessage are popular messaging apps for both personal and group chats. According to Statista (2021), as of July 2021, WhatsApp had over 45 million subscribers in the Nigeria. These platforms enable rapid and easy text-based chats that are frequently complemented with multimedia features such as photographs, videos, and GIFs. Such messaging apps have changed the way Americans connect with friends, family, and coworkers, resulting in new patterns of asynchronous and real-time interactions.

Furthermore, the COVID-19 epidemic has boosted the use of video conferencing and remote work in the Nigeria. During the epidemic, the use of platforms like as Zoom, Microsoft Teams, and Google Meet increased, not just for professional reasons, but also for social interactions and virtual gatherings (Pew Research Centre, 2021). Video-conferencing has become an essential technique for sustaining social relationships during lockdowns. The authors identified a surge in video calls for both work-related meetings and personal encounters, showing a shift in online communication patterns caused by external influences such as the pandemic (Anderson, Bollin, Shapiro, & Sirola, 2021). The Nigeria communication habits include a diverse spectrum of digital tools and platforms, such as social media, instant messaging, and video conferencing. These platforms have become part of everyday life, influencing how people communicate, share information, and collaborate. The COVID-19 pandemic pushed some trends in online communication, emphasising the value of video conferencing and digital networking. As digital communication evolves, academics and scholars will undoubtedly investigate these patterns in greater depth, including their impact on society, relationships, and culture.

Communication habits in the Nigeria have changed dramatically over the last decade, mirroring broader worldwide developments in the digital age. The development of smartphones and social media platforms has resulted in a significant increase in online communication activity among Nigeria people (Smith & Johnson, 2018). The widespread usage of social media platforms is a notable feature of online communication patterns in the Nigeria and the world. For example, a recent Ofcom (2021) survey found that 78% of UK adults use social media on a daily basis. Platforms such as Facebook, Twitter, Instagram, and LinkedIn are extensively used for a variety of reasons, including staying in touch with friends and family, sharing updates and news, and networking professionally. Such platforms have emerged as key routes for information transmission and interpersonal contact, indicating a shift in how individuals maintain relationships and interact with content online.

Furthermore, messaging applications have emerged as the most common form of internet communication in the Nigeria. WhatsApp, for example, is a popular messaging programme that supports text, phone, and video communication. According to Statista (2021), WhatsApp has roughly 28 million users in Nigeria in 2020, placing it among the most popular messaging systems. This demonstrates a propensity for quick and convenient communication channels, which are required for both personal and professional encounters. Communication habits in the Nigeria include email usage, which is still a common means of communication, especially in the office and for official communications. According to the Statista (2021), 52% of Nigeria people used email in 2020, with a significant amount of this usage being for work-related communication. The extensive use of email demonstrates its enduring value as a formal communication tool. The growing adoption of digital technology and platforms has led to substantial changes in online communication patterns in the Nigeria

Communication in Japan has distinct characteristics that reflect the country's cultural values and technological preferences. According to Nishimura and Nevgi (2019), Japanese internet communication is often polite and formal, with a strong emphasis on respect and hierarchy. This linguistic feature represents Japan's cultural values of politeness and reverence. Another important aspect of online communication in Japan is the widespread use of messaging apps like LINE. According to Statista (2021), LINE is the most popular messaging app in Japan, with over 78 million active users as of October 2021. LINE is used for more than just text conversation; it also incorporates stickers, emojis, and digital payment options. This emphasises the significance of visual and expressive components in Japanese online communication. Furthermore, Japanese online communication patterns show a strong preference for group-based interactions.

Ito (2019) illustrated how Japanese social media platforms such as Mixi and Twitter are frequently used to reconnect with old acquaintances and preserve group ties. This reflects the collectivist nature of Japanese society, in which group cohesion and social bonds are highly valued. Users in Japan engage in chats within specialised communities or interest groups, creating a sense of belonging. In contrast to some Western societies, Japanese internet communication values privacy and anonymity. Miyata (2018) addressed how internet forums in Japan frequently encourage the usage of pseudonyms or anonymous accounts. Users choose to disguise their true identities, which allows for more open and honest conversations. This

inclination for anonymity may be due to the cultural value of saving face and avoiding controversy. Cultural values, linguistic standards, and technological preferences all impact Japan's communication habits. These trends provide light on the interplay between culture and digital interactions, highlighting the need of having a sophisticated understanding of online behaviour in a global environment.

Communication patterns in Sub-Saharan countries have changed dramatically in recent years, reflecting the region's rising use of digital technologies. These patterns encompass a wide range of behaviours and activities, including social media use, messaging apps, online forums, and email exchanges. This transformation is being driven by factors such as greater internet connectivity, the proliferation of smartphones, and people's desire to connect, share, and engage online. Internet usage in Sub-Saharan Africa has grown dramatically, with an estimated 25% of the population having internet access in 2017, up from 2% in 2005 (Smith, 2018). This increased internet access has fostered the establishment of new online communication patterns. For example, social media sites such as Facebook, Twitter, and Instagram have grown in popularity, with users sharing news, personal experiences, and images with their friends.

In Nigeria, for example, Facebook has emerged as the major platform for online social interaction, with roughly 28 million users as of 2020 (Statista, 2021). Messaging apps have also become essential for internet communication in Sub-Saharan Africa. WhatsApp, in particular, has experienced widespread use for personal and professional communication. WhatsApp is commonly used to exchange text messages, voice chats, photos, and videos in nations such as Kenya and South Africa (Diga, Coulson & Papadopoulos, 2017).

In South Africa, over 83% of mobile phone users have WhatsApp installed on their handsets in 2020 (Statista, 2021). These figures demonstrate the importance of messaging apps in shaping online communication patterns. Ofori-Kyeremateng (2018) emphasised the importance of these forums in promoting online community building and information sharing among users. Email is an important tool for official communication and business transactions. In Kenya, for example, email usage has increased in the corporate sector, with businesses relying on email to communicate with clients and partners. Overall, online communication practices in Sub-Saharan nations are fast changing, driven by growing internet access and smartphone use. Social media, messaging applications, online forums, and email are all important components of these patterns. The adoption and utilisation of various digital communication technologies differ across countries

within the area, driven by factors such as internet infrastructure, cultural norms, and economic conditions.

Culture determines when and how people may speak. Individuals learn when to remain silent and when to make eye contact with an elderly person based on their culture. They are taught what constitutes 'appropriate' behaviour in public and when eating. Furthermore, the sorts of clothing worn are culturally determined. Novinger (2018) goes on to say that most people believe their culture is 'normal': that their conduct and communication patterns represent the natural order of things. As culturally diverse individuals seek to coexist, they encounter numerous sorts of communicative conflict. According to Merkin (2019), issues such as globalisation have boosted cross-cultural contact. As people from different cultures interact, their communication will inevitably influence their own cultures. Giri (2018) asserts that communication and culture have a strong influence on one another. Because culture has such a strong influence on behaviour, it undoubtedly influences how an individual communicates.

Cross-cultural differences are variations in views, values, practices, behaviours, and communication styles between persons from various cultural backgrounds. These variances stem from the distinct historical, social, and environmental forces that define each culture. When cross-cultural disparities are examined in the context of online communication patterns, it is clear that cultural influences play an important role in defining how people engage and interact in digital environments. Communication techniques vary greatly among cultures, which is a significant part of cultural differences. Different cultures have distinct communication conventions, which can affect the tone, formality, and directness of online interactions.

For example, certain cultures may value subtle and courteous communication, whilst others may value direct and assertive communication. These variations can have an impact on how people express themselves in online interactions and interpret messages (Hall, 2012). Cultural differences can influence the usage of nonverbal cues and symbols in online communication. Emojis, GIFs, and memes are frequently used in digital communications to express emotions and context. However, the interpretation of these symbols differs among civilizations. For example, a thumbs-up emoji may be considered favourable in one culture but offensive in another. Understanding these nuances is critical for successful cross-cultural online communication (Zhang, 2016).

Language variety is an important aspect of cross-cultural disparities in online communication. The language used in internet communications can represent cultural preferences and identities. In



multilingual countries, people may utilise a variety of languages and dialects in online chats. Furthermore, language ability and fluency might influence participation and engagement in online communities, resulting in discrepancies in access to information and resources (Park, 2017).

Cultural differences also influence how people perceive privacy and information sharing online. Some cultures value individual privacy and are careful about disclosing personal information, whilst others may be more open. These variances influence how much personal information people share, how they present themselves online, and how they use social networking sites (Hofstede, 2011).

Power dynamics and cultural hierarchies can also influence online communication habits. In some cultures, there may be a high emphasis on respecting authority figures and customs. This can influence people's propensity to express opposing viewpoints or engage in critical debates online, potentially resulting in varying levels of online participation and engagement (Trompenaars & Hampden-Turner, 2012). Cross-cultural variations have a big impact on how people communicate online.

Variations in communication methods, nonverbal indicators, language use, privacy preferences, and power dynamics all add to the complexities of online interactions in a multicultural digital landscape. To effectively negotiate these variations, persons and organisations involved in online communication must be culturally sensitive, adaptive, and aware of the various ways in which culture impacts digital relationships.

Cultural differences may "lead to miscommunication, which can and does cause conflict" (Triandis, 2012), but they may also provide a competitive edge for global businesses (Luo, 2016). According to Barker et al. (2017), sensitivity to diversity now necessitates a strategic knowledge of the value of cross-cultural communication competency in all actions in organisations, communities, and nations around the world. A variety of elements influence the effectiveness of cross-cultural communication. According to Glover and Friedman (2015), working successfully across cultures can be difficult for many professionals, and as the world changes, it is clear that dealing with other cultures, both domestic and international, necessitates competence in both identifying and transcending cultural boundaries (Lifintsev, Canavilhas, 2017).

Hofstede and his colleagues conduct in-depth analyses of national culture dimensions, which show independent preferences for one state of affairs over another that separate countries. The Hofstede model of national culture has six dimensions: power distance, individualism/collectivism,

masculinity/femininity, uncertainty avoidance, long term/short term orientation, and indulgence/restraint (Hofstede et al., 2010; Minkov, 2017). Hall (20129) distinguishes between high and low context cultures: While words uttered in low context cultures have straightforward meanings, communication in high context cultures is a complicated process in which all nonverbal aspects (e.g., rituals, nonverbal communication, roles, etc.) have equal weight as verbal communication.

Lichy and Stokes (2018) demonstrate that models based on essentialist assumptions have weaker explanatory value in digital contexts: for example, age, rather than gender or national characteristics, is a crucial element that impacts how people interact with the Internet. It is particularly significant because of the continued digitalization of organisations. Digitalization is described as "the adoption or increase in the use of digital or computer technology in a country, etc." (Brennen and Kreiss, 2014). Colbert, Yee, and George (2016) argue that digitization diminishes authenticity by reducing face-to-face contact and interactions with people who are not fully present. On the opposite end of the spectrum, Hesse (2018) finds that "digitalization moderates the influence of contextual and conditional changes on the outcome of leadership, and facilitates leaders' communication practices and thus affects the outcome of leadership".

### **Statement of the Problem**

Despite the growing globalisation of the digital age and communication, there is a scarcity of comprehensive research that quantifies the scope and nature of cross-cultural disparities in online communication habits. A statistical fact emphasises the need for such research. According to the Pew Research Centre (2019), Asia has the highest internet penetration, accounting for more than half of all internet users worldwide. This statistic emphasises the growing necessity of investigating cross-cultural online communication patterns, given Asia's great diversity of cultures and languages. This study attempts to fill significant research gaps by conducting a thorough analysis of cultural variations in communication styles, language use, and the perception of nonverbal clues in the context of online interactions. Furthermore, it tries to investigate how cultural norms influence people's willingness to divulge personal information online and engage in delicate discussions. This study's findings are likely to assist a diverse group of stakeholders, including educators, marketers, cross-cultural communication specialists, and legislators. Educators can use these insights to create more inclusive and culturally sensitive digital learning environments. Marketers can modify their internet advertising to appeal to a variety of cultural

audiences. Cross-cultural communication experts can design techniques for effective intercultural online engagement, and policymakers can utilise the results to inform digital literacy efforts and encourage cross-cultural understanding in online environments.

## **Literature Review**

### **Digital Media and Cultural Integration**

Digital media, including websites, social media, and blogs, facilitates the creation of profiles and visibility of relationships among users, making communication easier and faster. It allows individuals to share information electronically, including text, audio, video, and graphics, through the internet (Wolf, Sims & Yang, 2018). Culture, derived from the Latin word "colere," is a set of values, beliefs, and practices that people share in common. It plays a vital role in establishing social, political, and economic order, offering peace and harmony among citizens (Captainshayne, 2017). In Nigeria, cultural integration can be achieved through shared language, arts, greetings, and cultural identities. Cultural identities, art works, festivals, and trading of locally made products can also contribute to intercultural integration. Digital media can be a driving tool for disseminating these factors, promoting national integration among groups with similar cultural or geographical zones (Cole, 2019).

New technologies have made space and distance irrelevant in communication, making communication transcending cultures more important. Cultural identity should be considered when communicating, and understanding how people from diverse cultures interact can help achieve tolerance in society. Sharing pictures, videos, and activities of various cultures on blogs, websites, and social media platforms can also help achieve cultural integration (Mouhadjer, 2018).

### **Platforms that can aid cultural integration in Nigeria**

Culture and sports are closely linked, as culture influences people's behavior and attitudes, while sportsmanship reshapes attitudes through respect for rules and opponents (Nwankwo, Nweke, Okechi, 2016). The Nigerian government acknowledges that sports can be a tool for cultural integration, but challenges such as corruption, funds embezzlement, and insecurities have hindered its success. Broadcast media, such as FRCN, plays a crucial role in educating individuals about and accepting all existing cultures in Nigeria. However, challenges like poverty, insecurities, norms, values, beliefs, and illiteracy have impeded the development of cultural integration using broadcast media (Oluwasegunfunmi, 2015).

The government has established policies to achieve cultural integration, such as the National Youth Service Corps, Federal Character Principle, and unifying national policies on tertiary education (Boluwaji, 2016). However, governmental bodies like the National Orientation Agency and the Ministry of Information and Culture have struggled to achieve national integration using culture as a benchmark. Social media can help solve these issues by sharing information and promoting cultural appreciation through online games and competitions. However, these efforts should be objective and consistent to yield results (Eme-Uche & Okonkwo, 2020).

Onyekachukwu and Oghogho, (2018) highlighted the importance of broadcast media in achieving intercultural integration in Nigeria. However, these studies revealed challenges faced by broadcast media, leading to limiting intercultural integration. Folarin and Ajayi (2014) also highlighted the need for intercultural integration to foster national peace, unity, and development. Government policies, such as unequal resource distribution and conflicts, have hindered intercultural integration in Nigeria. Legacy/conventional media, such as the National Orientation Agency, Nigerian National Museum, Federal Radio Cooperation of Nigeria, and Federal Ministry of Information and Culture, have aided in cultural integration. However, these platforms often focus on pressing issues, limiting the use of digital media for cultural integration. The inability of these platforms to promote intercultural integration highlights the lack of digital media use in Nigeria.

### **Cross-Cultural Communication Challenges in Digital Age**

Digital communication tools such as email, instant messaging, and social media have broken down geographical borders, making cross-cultural contact easier than ever before. However, the impersonal nature of digital communication can lead to misconceptions since nuances in language, tone, and nonverbal indications may be lost during translation. The introduction of digital technologies has altered the worldwide communication scene, including Nigeria. Social media platforms, instant messaging, and video conferencing have made it easier to engage with people from different cultures. Cross-cultural communication has grown in importance in today's interconnected world, especially in the digital age, as technology is breaking down communication barriers. Nigeria's rich cultural landscape provides a unique context for investigating these difficulties. However, Ogbeide (2020) claims that the digital revolution exacerbates communication issues such as misreading of messages and cultural misunderstandings.

### ***Cultural Variations in Communication Styles***

Nigeria is home to about 250 ethnic groups with a diverse range of cultures, languages, and traditions. This diversity creates opportunities and challenges for communication. According to Ogunyemi and Falola (2018), coexistence of different ethnicities necessitates individuals and organisations navigating cultural nuances in order to develop effective communication. Communication styles differ substantially between cultures, with some being more direct and explicit and others being indirect and implicit. These disparities can lead to misinterpretations and conflict, especially in digital encounters where contextual cues are limited. In a culture that values politeness and diplomacy, a direct message may be viewed as disrespectful.

### ***Language Barriers***

Language diversity is an important feature of Nigeria's cultural landscape, with over 500 languages spoken throughout the country. Language hurdles exist in the digital age, despite the availability of translation software. Adeloye and Ayoola (2019) emphasise the need of incorporating linguistic variety into digital communication methods to achieve inclusivity and accessibility. Although English has established as a worldwide lingua franca, language hurdles still exist in cross-cultural communication. Non-native speakers may fail to communicate themselves clearly, resulting in misinterpretation and confusion. Furthermore, idiomatic idioms and slang can be puzzling to people unfamiliar with the language's intricacies, hindering communication even further.

### ***Technology-Mediated Miscommunication***

Digital technologies facilitate cross-cultural communication, but technological infrastructural gaps provide challenges, particularly in Nigeria's rural areas. According to Adebayo and Ojebuyi (2017), a lack of reliable internet connectivity and digital gadgets contributes to the digital divide, preventing effective cross-cultural communication. Despite the ease of digital communication, technology-mediated miscommunication is common. Typographical errors, autocorrect errors, and misinterpreted emojis can distort the intended message, resulting in unanticipated outcomes. Furthermore, cultural disparities in digital platform usage and etiquette could heighten misunderstandings.

### ***Stereotypes and Bias***

Stereotypes and prejudices based on cultural stereotypes might inhibit efficient cross-cultural communication. Preconceived assumptions about certain cultures can influence perceptions and

interactions, creating stereotypes and exacerbating cultural disparities. To overcome preconceptions, you must be open-minded, curious, and willing to question your assumptions.

### ***Time Zone and Scheduling Challenges***

Coordinating meetings and cooperation across time zones in a globally scattered workforce can be challenging. Differences in time zones can cause scheduling difficulties and misunderstandings, resulting in communication delays and interruptions. Implementing scheduling tools and creating clear communication standards can help to alleviate these issues.

### ***Cultural Norms in Virtual Meetings***

Virtual meetings provide distinct issues in terms of cultural norms and etiquette. Differences in timeliness, hierarchy, and communication styles may affect the dynamics of virtual relationships. Inclusive approaches, such as allowing everyone to contribute and accepting varied viewpoints, can improve the effectiveness of virtual meetings.

Effective communication methods and technical proficiency are the most effective instruments for addressing cross-cultural communication issues. For instance, successful cross-cultural communication in Nigeria necessitates cultural awareness and flexibility. Olukemi and Adebayo (2021) emphasise the necessity of understanding cultural norms, values, and etiquette while dealing with different groups, both online and offline. Building cultural sensitivity and understanding is essential for managing cross-cultural communication issues. It is critical to recognise and appreciate cultural diversity while abstaining from forcing one's cultural norms on others. Cultural competence entails actively listening, empathising, and modifying communication approaches to meet varied cultural preferences. Moreover, trust is essential for efficient cross-cultural communication. Building trust through digital interactions necessitates transparency, dependability, and consistency. Establishing personal connections and nurturing relationships through virtual methods might be difficult, but it is critical for building mutual understanding and collaboration across cultures.

### **The Prospects of the Use Digital Media as a Tool for Intercultural Integration in Nigeria**

The internet has made distance irrelevant, making communication easier and faster. Intercultural communication is crucial for understanding people from different cultures. Digital media, such as interactive sections and video conferences, allows people to share cultural ideologies and experiences. Digital media can be a tool for intercultural integration in Nigeria, focusing on attitude, knowledge, and skills (Mouhadjer, 2018).



1. **Attitude:** Digital media has influenced Nigerians to develop interest in their fellow Nigerians' daily activities, allowing them to analyse and discuss information based on their culture. This allows for a more inclusive and respectful environment, allowing for understanding and acceptance of different cultures. For example, Igbo and Yoruba brides use "Lali" to decorate their hands during traditional marriages, a practice that is facilitated by social media interactions with Northern friends, promoting appreciation of culture and safety.
2. **Knowledge:** Events organised by different cultural groups can sometimes go a long way towards explaining their political, economic, and social perspectives on their environment. Nigerians will learn about events involving fellow Nigerians from various cultures through cultural exchange via social media. Good knowledge of these events will assist us in understanding, deducing, and interpreting the significance of events unique to a specific culture.
3. **Skills:** When Nigerians have a solid understanding of many cultural systems, we can begin to see where the problem is, which is usually where we misinterpret cultures that are not unique to us as individuals. At this moment, we begin to compromise, negotiate, and acknowledge public opinion, while also tolerating minority and balancing duties. This will in turn instill bravery and trust in Nigerians.

This study highlighted the power of the media, which is similar to the research conducted by Sawyer and Chen (2012). These researchers explained how social media has transformed the world into a football pitch. They also highlighted the impact of social media in promoting globalisation and cultural uniformity. They discussed social media as a participatory means of communication. There is a requirement for connection because this study relies on this ability to create multicultural integration. Again, the findings of this study are linked to the notion of the works "Technology Determinism Theory," which stated that social media is a mediating component. This study demonstrates that social media is a mediating factor between people from different cultures since it is a channel for people to communicate and build mutual understanding. This is also consistent with a study conducted by Chen (2012), which found that tele-collaboration aids much in intercultural integration.

## **Theoretical Review**

### **Cultural Dimensions Theory**

Geert Hofstede's Cultural Dimensions Theory provides a core framework for studying cross-cultural disparities in online communication patterns. Hofstede's theory outlines major cultural elements, such as individualism-collectivism, power distance, masculinity-femininity, uncertainty avoidance, and long-term orientation, that impact individual values and behaviours within a society. These characteristics are useful for discussing how cultural values influence online communication techniques and preferences. For example, cultures with a high degree of collectivism may prioritise group harmony and consensus in online discussions, resulting in more indirect and consensus-oriented communication patterns, whereas cultures with high individualism may emphasise individual expression and assertiveness in digital interactions. This theory provides a comprehensive framework for evaluating the impact of culture in shaping online communication and helps academics understand why specific communication patterns prevail in different cultural situations (Hofstede, 2011).

### **Communication Accommodation Theory**

Howard Giles' Communication Accommodation Theory focuses on how individuals modify their communication behaviours to either align with or diverge from their interlocutors' communication styles. This idea is especially useful when considering cross-cultural disparities in online communication patterns. It explains how people from various cultural backgrounds change their online communication to either conform to the standards of the online community in which they participate or to retain their own cultural communication norms. For example, a person from a high-context culture may adjust to the low-context communication style typical on a specific social media platform. Understanding how individuals adjust or diverge in their online communication can shed light on the dynamics of cross-cultural interactions in digital domains, as well as providing ideas into effective cross-cultural online communication tactics (Giles 2012).

### **Technological Determinism Theory**

This study is based on the Technological Determinism idea. Thorstein Veblen proposed a hypothesis that explained how technology might influence human beliefs and actions. Technology influences the development of a society's structure and cultural value (Fasouli, 2014). Karl Max claimed that technology is a determining influence in our beliefs and thoughts. Technology shapes how we engage, enjoy, accept, relate, and coexist (Talabi, 2017). This idea is relevant to the study because it demonstrates how the digital age has changed the

manner of communication in society. It has made communication more participative, horizontal, engaging, and interactive. This idea emphasises that technology shapes people's culture (style of life), implying that the sort of information published by users on social media can have a wide-ranging impact on society. This will undoubtedly generate much-needed space for programming that promotes cultural integration. Again, the Technological Determinism theory explains that technology (digital media) is a mediating factor; hence, Nigerians can use social media as a vehicle for cultural unification.

### **Empirical Review**

Previous research has shown that digital media improves intercultural skills and integration. This suggests that digital media can help people recognise and embrace other people's cultures (Izamayalova 2017). Cultural appreciation, contact, and acceptance are all significant because they can lead to cultural adaptation and, ultimately, understanding and peaceful coexistence. Other cultural studies, on the other hand, have found that digital media, particularly social media, has resulted in cultural homogenization. Our greetings, clothes, and hairstyles are all westernised. This is because social media content is heavily westernised, and because people believe what they see, social media users believe that social media content is appropriate (Asemeh, Ekhareafo, & Olaniran, 2013).

Nigeria, a multi-cultural country, requires intercultural integration for peaceful coexistence (Folarin, Olanrewaju & Ajayi 2014). Various mediums, such as print and broadcast media, have attempted to accomplish cultural integration; nevertheless, these media channels confront numerous problems that impede the growth and development of intercultural integration in Nigeria (Eloke & Wilfred, 2012). The unavailability of various media channels and other platforms to aid in cultural integration in Nigeria has made it extremely difficult to conserve and develop culture (Onyima, 2016). Nigerian culture is on the verge of extinction as a result of globalisation, modernization, the difficulty to retain and distribute cultural items, and other factors. The majority of these past studies focused on the importance of cultural integration, how Nigeria and other media stations have played different roles in achieving cultural integration in Nigeria, the challenges, and the impact of digitization on cultural integration in Nigeria. However, little research has been conducted on the current state and future of digitization and cultural integration in Nigeria.

Olaniran and Agnello (2018) conducted an updated review of cross-cultural communication disparities in online learning environments, analysing the literature on cross-cultural communication theories and models, as well as empirical investigations on cross-cultural online learning experiences. The chapter then examined research on cross-cultural online learning differences, namely between university students from the Western world and those from the East. Language, technology, and instructional design are among the barriers to cross-cultural online education identified in the research. The chapter also highlighted several techniques for improving cross-cultural online learning, such as giving cultural awareness training, encouraging intercultural debate, and developing culturally inclusive courses.

Lee and Liu (2019) investigated cross-cultural differences in social media interaction patterns between users in China and the US. The technique includes surveying 1,000 social media users from each country to determine their frequency, duration, and intensity of interaction, as well as their motives, preferences, and social media behaviours. According to the findings, Chinese users were more likely to use social media for information seeking, entertainment, and social support, whereas American users used it for self-expression, identity construction, and social comparison. The study also discovered that Chinese users exhibited higher degrees of uncertainty avoidance and lower levels of individualism than American users, which influenced their engagement habits. The study recommended creating culturally sensitive social media platforms that respond to the needs and expectations of various user groups, as well as using social media to enhance cross-cultural communication and understanding.

Wang and Gupta (2018) investigated the impact of online communication on cultural stereotypes in two nations, China and India. The study used a pretest-posttest design with two experimental conditions: online chat and online forum. Participants were randomly allocated to one of four groups: Chinese chat, Chinese forum, Indian chat, and Indian forum. The study found that online communication had a considerable impact on cultural stereotypes, but the direction and size of the change differed depending on the type of online communication and the country of origin. The authors recommended increasing intercultural online communication among diverse groups, fostering mutual understanding and respect, and avoiding potential confrontations and misunderstandings.

## **Conclusion**

Cross-cultural communication has enormous challenges and potential in today's quickly changing digital landscape. As technology allows people to communicate across geographical borders, the necessity for good cross-cultural communication grows. This investigation reveals some major conclusions on the problems and strategies for negotiating cross-cultural communication in the digital age. The internet age has made cross-cultural communication more challenging. Individuals from various cultural backgrounds are engaging at an unprecedented rate as online platforms and social media become more prevalent. However, improved connectivity does not ensure good communication. Cultural differences in communication methods, conventions, and beliefs can cause misunderstandings, disagreement, and even unintentional offence. Furthermore, the use of digital means frequently eliminates nonverbal clues, complicating message comprehension. Thus, the digital age emphasises the significance of knowing and respecting cultural differences in order to develop meaningful connection.

Moreover, technological improvements provide tools and resources for overcoming cross-cultural communication hurdles. Technology, ranging from translation software to virtual reality simulations, offers novel options for facilitating cross-linguistic communication. For example, real-time translation services allow people to communicate in their original languages, cutting down language barriers in global settings. Similarly, virtual reality systems provide immersive cultural encounters, enabling users to obtain firsthand knowledge of various cultural perspectives. Individuals and organisations can improve cross-cultural understanding and digital collaboration by harnessing these technical resources.

Furthermore, effective cross-cultural communication in the digital age necessitates a proactive and adaptable strategy. Rather than making generic assumptions or preconceptions, people should actively endeavour to understand their communication partners' cultural backgrounds. This entails spending time conducting cultural research, engaging in open discourse, and displaying cultural awareness. Furthermore, individuals should be adaptable and flexible, acknowledging that cultural norms and communication preferences might differ between contexts and platforms. Individuals that cultivate cultural competence and flexibility are abler to overcome cross-cultural communication issues.

## Recommendations

The following recommendations are hereby proffered:

**Promoting Cultural Sensitivity in Online Communities:** The study emphasises the necessity of understanding and respecting different communication styles and conventions across cultures. Online communities and social media platforms can take steps to increase cultural sensitivity. This can involve giving standards for courteous conversation, encouraging users to include their cultural origins in their profiles, and offering language translation capabilities to help with cross-cultural encounters. Furthermore, teaching members of the online community on the influence of cultural differences on communication can help users develop understanding and empathy.

**Customising User Experience:** Online platforms should consider tailoring user experiences to cultural preferences. This can include allowing users to customise their communication options, such as language, privacy, and notification choices. By providing such customisation choices, online platforms can let users engage in online communication in ways that are consistent with their cultural values and communication styles. Users might, for example, define their preferred language for interface elements or choose to only receive notifications for critical messages.

**Digital Literacy and Cross-Cultural Training:** Educational institutions and organisations should prioritise digital literacy and cross-cultural training for people who communicate online from different cultures. Digital literacy programmes can help users navigate online spaces more efficiently, comprehend digital etiquette, and recognise and reduce the influence of cultural prejudice in online interactions. Cross-cultural training can assist individuals in developing the skills required to bridge cultural divides, promote inclusivity, and resolve cross-cultural communication issues in digital environments.

**Research and data-driven strategies:** Organisations and scholars should continue to invest in cross-cultural studies of internet communication patterns. They can stay up to date on changing communication trends and preferences across cultural contexts by doing continual research. This knowledge may be used to guide communication strategies and platform design, ensuring that they remain relevant and effective in an ever-changing digital context. Furthermore, data analytics techniques can be used to monitor user behaviour and sentiment in order to detect possible cross-cultural communication challenges and address them proactively



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## **Place of Information and Communication Technology (ICT) in Sustainable Development (A Study of State-Owned Universities in Delta State)**

**OSAKWE, Stephen Onyeonwuna & EKEATA, Akhilele\***

Department of Office Technology and Management,  
School of Business Studies, Delta State Polytechnic, Otefe-Oghara, Delta State.  
steveosakwe1212@gmail.com; OSAKWE.Steve@ogharapoly.edu.ng  
07033228533, 08052724830; 08037078922\*

### **Abstract**

*The study examined the place of information and communication technology (ICT) in sustainable development in state-owned universities in Delta State. The study adopted a descriptive survey design. The population was 1,375 lecturers in the four state-owned universities namely Delta State University, Abraka; University of Delta, Agbor; Delta University of Science and Technology, Ozoro; and Dennis Osadebe University, Asaba, Delta State. The sample size of 213 was determined using the Taro Yamane's formula  $[n = N/1+N(e)^2]$  and the stratified sampling technique was used to source respondents from the four state-owned universities. The instrument used to obtain data was e-questionnaire and the responses were analysed using the descriptive statistics (mean, and standard deviation). The results showed that all the indicators mentioned proved ICT implementations significantly enhanced sustainable development in teaching. In conclusion, smart use of ICT in sustainable development programs make a substantial contribution to promoting balanced and equitable growth that satisfies current demands without jeopardizing future generations' capacity to fulfill their own. It was recommended amongst others that government should adequately fund higher education to promote sustainable development.*

**Keywords:** Higher Education, Information and Communication Technology, Job Creation, Poverty Alleviation, Sustainable Development

### **Introduction**

In many nations, education is more than an avenue for enabling progress and preventing poverty; it is also essential for knowledge development, knowledge-based economies, and globalization to give individuals the ability to transform information into socially beneficial skills, knowledge, and values; modernize societies while enhancing the standard of living; and prepare and produce a skilled workforce (Shaikh & Khoja 2011). Amjad (2006) defined a knowledge-based economy as “one that bases its growth not only on increasing capital or land or labor inputs, but also on knowledge.” The birth and expansion of ICT in varied degrees over the last two decades has resulted in the emergence of information societies, also known as knowledge societies. Today, these communities play a critical role in advancing knowledge economies. These ICT-driven knowledge societies require an ICT-savvy workforce, government backing, transparent and independent institutions, progressive attitudes, and a strong ICT infrastructure (Shaikh and Khoja 2011). Another research (Yusuf and Afolabi 2010) believes that ICT supports sustainable



development in less developed nations to narrow the global digital gap and establish their knowledge societies. Still, it also helps to enhance the quality of learning and educational results. They further suggested that the state of any education system is determined through the quality of its higher education, given it contributes to the development of education at all levels.

According to Nworgu (2007), the ICT industry appeared to have made considerable inroads into Nigerian society. Before 1999, the country featured very low ICT resources and infrastructure. Only a small number of rich Nigerians have access to these amenities and services. Internet facilities and services were rare to come by and the facsimile (that is, Fax) remained for a long time, the only means available to Nigerians for transmitting and receiving data or documents to other parts of the world. Public awareness of ICT and its application was low. However, the current picture is entirely different. Huge investments have been made by both the public and private sectors in the ICT business in the country. During the previous three (3) years, the country has seen a significant increase in ICT resources and infrastructure. Around 20 million Nigerians already have access to the Global System for Mobile Communications (GSM). The Federal Government's liberalization program has resulted in more GSM operators and Internet Service Providers (ISPs) being licensed and functioning in the country. Millions of Nigerians now have access to these facilities and services even in the rural communities. (Ozioko & Nwabueze 2011).

In March 2001, the Federal Executive Council established a National Information Technology Policy (NITP), marking an important milestone in the country's ICT industry growth. In April 2001, the National Information Technology Development Agency (NITDA) was established to implement this strategy. This agency is responsible for executing Nigeria's information technology (IT) policy, as well as promoting the healthy growth and development of Nigeria's IT industry (Isoun, 2003). The vision and mission statements of Nigeria's IT policy provide insight into its fundamental emphasis. According to the then-Honourable Minister of Science and Technology, Professor Turner Isoun, the policy's vision was to make Nigeria the most IT-capable country in Africa and a key player in the information society by 2015, to use IT as a driver of sustainable development and global competitiveness. Their goal statement was to see IT for education, wealth creation, poverty alleviation, job creation, and global competitiveness. The policy relied on human capacity building as the major strategy for realizing its vision and mission (Isoun, 2003). The development of any nation is usually indicated by the degree and extent of the socio-cultural, socio-economic, and political improvement that are brought to bear through the enterprises of science, technology and mathematics.



According to Olorundare (2007), sustainable development leads to fulfillment of societal ideals considered relevant to the needs and aspirations of the society. Factors, which influence such developments, are based on human ability to explore, invent, and utilize. Satisfaction of spiritual, physical and material needs and the mastery of the environment are parameters for development when applied to the human society. It has been stated by several authors and scholars that the development of any nation depends very much on the advancement and application of science and technology. The role of science in the development of modern societies is not so much in dispute now that the influence of modern technological innovations is far reaching in every sphere of man's life. If Nigeria intends to establish an organized, self-sufficient, and technologically compatible society, great emphasis must be constantly put on science and technology.

A great deal of research and development has been conducted in order to bring Information and communication technology (ICT) to its present state of the art. ICT was originally meant to increase instructional efficiency (Jones & Knezek, 1993). Research suggests that using ICT in education might enhance memory retention, motivation, and understanding. ICT may also be utilized to encourage collaborative learning through activities such as role-acting, group problem-solving, and articulated projects (Forcheri & Molfino, 2000). In general, ICT encourages new modes of working and learning, as well as new forms of interaction. As a result, the introduction of ICT into classrooms has raised a number of new challenges concerning the developing nature of teaching. Whether or not changes in pedagogy are contingent on trends and innovations, and are moot points. However, the issue that should be posed is: What will ICT's long-term influence be on the teaching and learning process? It is well documented that ICT changes the nature of motivation to learn (Forcheri & Molfino, 2000).

Initially, educators considered using ICTs in the classroom primarily as a contemporary tool to teach computer literacy. Nonetheless, most of them now see a broader role: that of delivering many kinds of learning at lower cost and with higher quality than traditional methods of teaching allowed. Furthermore, schools and universities, like other major organisations, are increasingly relying on ICTs to cut costs and increase administrative efficiency (Adu & Tella, 2013). When assessing the progress of ICTs in schools, universities, and training, an important distinction must be made. In schools, teachers generally use ICTs as instructional instruments. "Distance" learning is rarely part of school teaching. In the case of higher education and training, students are more likely to use ICTs partly to learn at a distance from the instructor. Different teaching techniques are, thus, probably required in the two areas of education. (Adu & Tella, 2013) Also important to remember is the fact that most investment in education is publicly financed.

Indeed, some have been driven more by politics than education policy. Computers and broadband connections have a high level of visibility; that makes them an attractive way for politicians to claim to be upgrading education with public money. Even when politicians are not involved, the majority of measured spending on ICTs in education is driven by public policy rather than private choice. Private investment in ICTs does occur. Some are run by businesses that use ICTs to deliver training programs. Furthermore, many students purchase personal computers for educational purposes; many, particularly in wealthier nations, utilize them for study and assignments. One critical question is whether governmental investments in ICTs in education, done at the demand of administrators or politicians, have been less effective than private expenditures made by students on their own behalf. Certainly, public-sector investors in ICTs in education should be aware of how corporate employers handle the use of ICTs in training, since there may be lessons to be learnt (Tella & Adu, 2010). It is widely held that man is the purpose of development, and that progress cannot occur unless man takes the initiative to plan, organize, and implement it. Thus, it is possible to say that development is by and for humans. No man can force development to occur unless he is sufficiently educated to do it. According to Onuka (2007), personnel development is the process of maintaining the manager's education in order to keep him up to date on any new management developments. It is a process that begins with planning and concludes with input on organisation, execution, and assessment.

Akorede and Onuka (2008) observe that professional staffs are an essential ingredient of the emancipation of a people in terms of development. He further stated that many African institutions of higher learning are in a state of crisis; implying that they are currently ill-equipped. Emunemu and Onuka (2008) argue that education is the key instrument for development, thus players in the education industry must pay the desired attention to the sector and guarantee that an acceptable amount of investment is devoted to it. Onuka and Emunemu (2008) found out that there was very high correlation between university education and leadership performance in Nigeria. This finding portends that education plays vital role in national development and should, therefore, not be toiled with. It has been found by various scholars that research also engenders educational advancement/development (Odinko, 2001).

In contrast, sustainable development serves as an organizing concept for human life on a finite world. The goal is for human civilizations to achieve their requirements without compromising the sustainability of natural systems and the environment, ensuring future generations' needs are satisfied as well. Sustainable development combines concern for natural systems' carrying

capacity with the social and economic difficulties that mankind faces. As early as the 1970s, 'sustainability' was employed to describe an economy "in equilibrium with basic ecological support systems". Scientists, in many fields have highlighted the limits to growth and economists have presented alternatives, for instance, a steady state economy to address concerns over the impacts of expanding human development on the planet (Manning et al., 2011). Historically, the notion of sustainable development was often divided into three domains: environmental sustainability, economic sustainability, and social sustainability. Other alternative approaches to define the notion have been proposed. For example, Reinecke et al. (2012) separate the four domains of economic, ecological, political, and cultural sustainability by referring to the fourth area as 'institutional' or 'good governance'.

### **Objectives of the Study**

The main objective of the study is to assess the roles of ICT in promoting the sustainable development in Delta State-Owned Universities, Delta State; and the specific objectives are to:

1. examine the contributions of ICT to sustainable development Delta State-Owned Universities, Delta State
2. assess the contributions of higher education to sustainable development Delta State-Owned Universities, Delta State
3. ascertain the contributions of both ICT and higher education to sustainable development Delta State-Owned Universities, Delta State

### **Research Questions**

The following questions were raised to provide answers to the problem the study set out to address.

1. What are the perceived contributions of ICT to sustainable development Delta State-Owned Universities, Delta State?
2. What are the perceived contributions of higher education to sustainable development Delta State-Owned Universities, Delta State?
3. What are the perceived contributions of both ICT and higher education to sustainable development Delta State-Owned Universities, Delta State?

### **Roles of ICT in Achieving Development Goal**

United Nations Global Alliance for ICT and Development (2012), succinctly described that in the United Nations' Millennium Summit a set of development goals were created with an aim to improve some of the most critical social, economic, and environmental issues in the developing world by 2015. The eight goals are:

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality rate
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria, and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development

### **How ICT Advanced Sustainable Development**

The prime cause of poverty is isolation from the rest of the global community. Access to the internet and mobile networks can allow impoverished people around the world to access banking, medical services, and markets. Remote weather stations can be set up in new locations and connected via mobile networks to allow researchers to better study the local and global impacts of climate change.

### **Importance of Internet Accessibility**

Providing laptops to students in the developing world like the one laptop per child program does, allow children in developing countries to communicate with other children in advance countries like US and even to work on class projects together. The potential of such interaction is invaluable. Learning to use technology to expand the reach of a child in a small village in Africa expands the horizons of their possibilities infinitely. For the children in the developed world the lessons will also be of great value. For example, in a country like Uganda due to the importance of the transfer of knowledge, a dedicated news network, South-South News, has been set up to help reach the Millennium Development Goals through the use of Information, Communication, and Technology.

### **Access to Mobile Networks**

In just the last two decades, most of Africa has leapfrogged the communication infrastructure divide from having no telephones to having widespread cellular networks. This has allowed the rapid spread of mobile banking services, allowing people to make secure transactions and secure small business loans. Besides, being currently developed is a system that allows for minimally-trained local medical workers to easily diagnose malaria, obtain prescriptions, and register cases with mobile technology. Mobile networks can also help disseminate information by allowing farmers access to best practices for irrigation and fertilization. Unfortunately, cost is still a major

barrier to the effective use of mobile technology. African countries may utilize their immensely valuable mobile communication spectrum to invest in substantial infrastructural upgrades.

Giving over six billion people access to ICT sounds like a waste nightmare waiting to happen. There is a need for serious conversations concerning the environmental ramifications. Systems must be implemented that allow for the successful recycling of laptops and mobile devices. There are also serious considerations around the impact of the infrastructure, cellular networks, telephone switching equipment, servers and satellite-based equipment. Finally, in addition to connecting farmers and workers to markets, will access to ICT also move the rest of the world towards Western-style consumerism? Rather than fearing the consequences of others following in the West's destructive footsteps, it is our responsibility to lead by example and extend a hand to our global brothers and sisters to elevate their quality of life and alleviate extreme hardship. ICT, for the first time, makes this a possibility.

### **Education for Sustainable Development**

Education empowers people for their role in society and, therefore, is of vital importance to promote the sustainable development of our global community. The Millennium Development Goals adopted by the UN General Assembly in 2000, and the WEHAB initiative proposed by the UN Secretary General Kofi Annan during the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg both underscore the role of education in improving peoples' lives. While it is broadly understood that literacy and education for all play a crucial role in preparing people for their future in a highly connected, interlinked and globalized world; higher education in particular occupies an important position in shaping the way in which future generations will learn to cope with the complexities of sustainable development. In nine of the forty chapters, Agenda 21 noted the key role universities have to play to achieve sustainability.

Universities form a link between knowledge generation and transfer of knowledge to society in two ways. First, they prepare the future decision-makers of society for their entry into the labour market. Such preparation includes education of teachers who play the most important role in providing education at both primary and secondary levels. Second, they actively contribute to the societal development through outreach and service to society (UNESCO 2002). Globalisation has spurred technological, economic, social and cultural change as well as the greater mobility of capital, technology, information and labour. This phenomenon has created a growing demand for society's capacity to acquire process, disseminate and apply knowledge. Universities as important centres of research and learning, play an important role in this context. In addition to fundamental

research, universities also have to undertake innovative, action oriented research. They should be particularly attuned to the provision of appropriate knowledge and skills relevant for sustainable development to the local community as local knowledge centres. In addition to their usual teaching roles, universities must examine their role in retraining schoolteachers and other local professionals to contribute to learning for sustainable development.

In this observation, universities are important actors in the community, as employers, purchasers and service users. They are also businesses where prudent use of resources saves money and safeguards reputations. Thus, universities can be perceived as models for society in the pursuit of sustainable development. Universities are expected to contribute to innovation, to contribute to reflection on values and ethics, and to contribute to the transformation to a more sustainable society. The provision of knowledge as a “public good” is one of the tasks of higher education, and unhindered access to knowledge is a prerequisite for sustainable development. Of particular importance are qualitative factors imparted by the education system, such as orientation towards innovation and learning, creativity and the willingness to take risks. (UNESCO, 2012).

According to UNESCO, in considering the roles and functions of the university in promoting sustainable development, the following issues should be particularly addressed:

1. Increasing the relevance of teaching and research to social processes that lead to more sustainable lifestyles while discouraging unsustainable ones.
2. Improving the effectiveness and efficiency of education and research.
3. Bringing science and education closer together, as well as traditional knowledge and education.
4. Improving relationships with actors outside of the institution, particularly with local communities and companies.
5. Introducing decentralized and flexible management approaches.

### **Higher Education and Knowledge Transfer to Society**

The problems of the society are very complex; hence there is need for multidisciplinary approaches to solve them. The contest for higher education institutes is to create gorgeous learning environments that prepare learners for their roles in society. This implies that learning environments should: offer access to scientific knowledge of good quality that enable students to obtain the aptitudes needed to work together in multi-disciplinary and multi-cultural team in involved processes, and bring the global aspect into individual learning environments. Through the processes of education, outreach and service to community and region, universities and other



higher education institutes constitute ties between knowledge generation and application of this knowledge in society.

This bridging function is of great importance for innovation, development and creation of welfare. The learning environments created in higher education should enable learners to understand their physical and social environment; to develop a positive attitude towards cultural, environmental multiplicity, and life-support environmental processes; and to use their knowledge and attitude in a way that is responsible with respect to the well-being of their own society, other societies and of the planet as a whole. Higher education should not only critically reflect on learning environments and learning processes for students studying for their first degree in higher education, rather they should also reflect on their role in creating an infrastructure that supports and enhances life-long learning processes. Higher education has a specific place within the educational system because it constitutes the learning environment for all educational professionals including those for primary and secondary education. Therefore, it is important that the learning environments for educational professionals provide a source of inspiration for the development of innovative learning processes as well. For that purpose, the opportunities offered by new media and information and communication technology (ICT) certainly deserve attention. (UNESCO, 2002).

Knowledge is a key factor for sustainable development. Yet without the appropriate context and applications, knowledge cannot successfully catalyse sustainable development. Therefore, education should be considered as an enabling infrastructure for all sectors of the economy, for democracy and for good governance. The challenge for higher education is to innovate traditional learning environments and learning processes in such a way that they not only support the learning process of children and young adults in formal education, but life-long learning, training and informal learning as well. Higher education institutes are challenged to co-operate together in networks that constitute a supportive infrastructure for life-long learners. Co-operation between universities is however not enough. To fulfil their outreach/service function at regional, national and international levels as well, universities and higher educational institutes will have to be active knobs in not only national and regional but international networks with other partners such as primary and secondary schools, vocational education, science centres, small and medium sized companies, chambers of commerce, NGOs, national and regional governments, etc. The challenges for higher education in the context of the Decade are, thus, colossal, but the opportunities as well. New media and ICT offer many possibilities to enhance human activities in the field of education by providing flexible access to educational resources, assisting in

information management and facilitating active discussions. Emphasis should not only be on competition at a global scale, but also, and even much more, on co-operation and sharing of knowledge at a global scale.

## Methodology

The study adopted a descriptive survey design. The population was 1,375 lecturers in four Delta State-owned universities namely Delta State University, Abraka (570); University of Delta, Agbor (285); Delta University of Science and Technology, Ozoro (250); and Dennis Osadebe University, Asaba, Delta State (270). The sample size of 310 was determined using the Taro Yamane's formula [ $n = N/1+N(e)^2$ ] and the stratified sampling technique was used to source respondents from the four universities. The instrument used to obtain data was e-questionnaire and the responses were analysed using the descriptive statistics (mean, and standard deviation).

## Results and Discussion

**Research Question 1: What are the perceived contributions of ICT to sustainable development Delta State-Owned Universities, Delta State?**

**Table 1: ICT Contributions to Sustainable Development in Delta State-Owned Universities**

S/N	Statements	Mean	StDev.
1.	ICT integration effectively promotes sustainable development	2.99	1.73
2.	Robust and effective ICT policy enhances sustainable development	3.08	1.75
3.	The supply of high-tech ICT facilities sustains development	3.18	1.78
4.	Lack of creativity and willingness to change hinder sustainable development	3.34	1.83
5.	High cost of sustainability of technology can hinder development	3.06	1.75
6.	The chosen ICT-based model enhances sustainability	2.87	1.69
7.	Lack of ICT competencies affects sustainable development	3.49	1.87
8.	Accessibility to Internet and mobile networks enhances sustainable development	3.65	1.91
<b>Grand mean and standard deviation</b>		<b>3.21</b>	<b>1.79</b>

Source: Field survey, 2023

Table 1 shows the perspectives of ICT contributions to sustainable development at Delta State-owned universities, with a grand mean of 3.21 and a standard deviation of 1.79, showing reasonable agreement but significant diversity in responses. The assertion that access to the internet and mobile networks promotes sustainable development receives the most agreement (Mean = 3.65, StDev = 1.91), followed by the impact of a lack of ICT capabilities (Mean = 3.49, StDev = 1.87). In contrast, piloting ICT-based models had the lowest agreement (mean = 2.87, standard deviation = 1.69). Overall, while there is awareness of the good role of ICT in supporting sustainability, there are considerable concerns regarding prices, policy soundness, and the need for enhanced ICT skills and inventiveness.

## Research Question 2: What are the perceived contributions of higher education to sustainable development in Delta State-Owned Universities?

**Table 2: Higher Education's Contributions to Sustainable Development in Delta State-Owned Universities**

S/N	Statements	Mean	StDev.
1.	Adequate maintenance of infrastructures in institutions of learning promotes sustainable development	3.21	1.79
2.	Autonomy for higher education system enhances sustainable development	3.09	1.76
3.	Positive attitude of higher education leadership influences sustainable development	3.66	1.91
4.	Computer Assisted Instruction programs in institutions of learning enhances sustainable development	3.23	1.80
5.	Human capacity building programs in the institutions positively affects sustainable development	3.90	1.97
6.	Political interference in higher education system militates against sustainable development	2.64	1.62
7.	Adequate funding of higher education promotes development	3.83	1.96
8.	Bad education policy and planning will hinder sustainable development	3.89	1.97
<b>Grand mean and standard deviation</b>		<b>3.43</b>	<b>1.85</b>

Source: Field survey, 2023

Table 2 shows perceptions of higher education's contribution to sustainable development at Delta State-owned universities, with a grand mean of 3.43 and a standard deviation of 1.85, showing moderate to high agreement and significant diversity in responses. The statement that human capacity building programs positively affect sustainable development receives the most agreement (Mean = 3.90, StDev = 1.97), followed by adequate funding for higher education (Mean = 3.83, StDev = 1.96) and the negative impact of poor education policy and planning (Mean = 3.89, StDev = 1.97). The assertion that political intervention is detrimental to sustainable development has the lowest level of agreement (Mean = 2.64, StDev = 1.62). Finally, the research emphasizes the vital relevance of leadership attitudes, capacity training, and enough finance in fostering sustainable growth within higher education institutions.

## Conclusion

Universities are important actors in the community, as employers, purchasers and service users; they are also businesses where prudent use of resources saves money and safeguards reputations. Thus, universities can be perceived as models for society in the pursuit of sustainable development. Higher education should not only critically reflect on learning environments and learning processes for students studying for their first degree in higher education, they should also reflect on their role in creating an infrastructure that supports and enhances lifelong learning processes. In examining the development of ICTs in schools, universities and training, an important distinction should be made. In the case of schools, teachers primarily use ICTs in the school as an instructional device. "Distance" learning is rarely part of school teaching. In the case

of higher education and training, students are more likely to use ICTs partly to learn at a distance from the instructor. From the findings, factors such as effective ICT integration will promote sustainable development, robust and effective ICT policy will enhance sustainable development; and the supply of high technology facilities will sustain development in Nigeria have the highest significant contribution to sustainable development in Nigeria. Concerning the role of higher education; the development and adequate maintenance of infrastructures in institutions of learning can promote sustainable development in Nigeria contributed mostly to sustainable development in Nigeria with (Mean of 4.1 and SD= .5013). Concerning the role of ICT and higher education in sustainable development, the findings revealed that; promoting and enhancing Government policies and operational procedures with (Mean 3.98 and SD .488) have the greatest contribution.

### Recommendations

Based on the findings and conclusion of this study, it was recommended that government should adequately fund higher education so as to promote development; they should make provision for clear language and educational content development that can militate against development and also training and retraining of staff in educational institutions; the human capacity building programs in our institutions should be further improved upon because humans are not machines. Government should shun any political interference in higher education system and ensure the environmental sustainability and development of a global partnership.

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## **Dynamics of Remote Work and Job Satisfaction of Office Managers in Selected Private Organisations in Ibadan, Oyo State**

**<sup>1</sup>IGE, Oluwaseye Jacob, <sup>2</sup>KAYEWUMI, Omolayo Comfort &**

**<sup>3</sup>FASIPE, Oluyemisi Omowumi**

<sup>1</sup>Office Technology and Management Dept., Yaba College of Technology, Yaba, Lagos.

<sup>2,3</sup>Office Technology and Management Dept., The Polytechnic Ibadan, Oyo State.

<sup>1</sup>oluwaseye.ige16@gmail.com, 07035559223; <sup>2</sup>omolayocomfort22@gmail.com, 08139142307;

<sup>3</sup>yemfash1971@gmail.com, 08038188474

### **Abstract**

*The study examined the influence of remote work on job satisfaction of office managers in selected private organisations in Ibadan, Oyo State. A descriptive survey design was adopted. The targeted population was 1,696 and the sample size of 149 was determined using the online smart survey sample size calculator with a confidence level of 80% and; a margin error of 5%. The data were primarily sourced and the outcome of the instrument reliability test conducted was a Cronbach's Alpha value of 0.79. Data were collected through the e-questionnaire and the researchers' visits to some of the organisations where they have contacts. The collected data were analysed using descriptive statistics [mean and standard deviation] and inferential statistics [testing the null hypothesis using the Pearson Correlation model at the significance level of 0.05]. The result [n=87, r = 0.768\*\*, p-value <0.00] showed that there was a strong positive relationship between remote work and job satisfaction of office managers in those selected private organisations in Ibadan, Oyo State. The findings revealed that remote work is a valuable approach to boosting office managers' job satisfaction in private organisations in Ibadan, Oyo State. In conclusion, remote work helps office managers to effectively balance their commitments with professional oversight functions and thus increase their job satisfaction level. It was, therefore, recommended that management should adopt flexible remote work policies to enable office managers to perform effectively at work without ignoring their commitments at home.*

**Keywords:** Job Satisfaction, Office Administration, Office Management, Remote Work, Working Conditions

### **Introduction**

Job satisfaction is critical to the work environment as it influences employee engagement and motivation, and their general well-being (Ali et al., 2023). Job satisfaction is the degree to which employees are pleased, fulfilled, and positively engaged with their jobs and work environments. It includes a variety of aspects such as the nature of the job, connections with co-employees and supervisors, possibilities for growth, remuneration and perks, and general corporate culture (Nwokolo & Onuoha 2023). Understanding job satisfaction is important for employers and employees since it affects many workplace areas, including productivity, employee turnover, morale, and organisational performance. Satisfied employees are more committed to their work



and if they are well-motivated, they devote their energy, talents, skills, and experiences to achieve the purposive goals of the organisation.

Employees' accomplishment of tasks that are properly in line with their talents, passion, interest and values boosts their commitment to the organisation and further job satisfaction (Ali & Anwar, 2021). Employees' accomplishment of tasks that are properly in line with the employees' talents, passion, and interest values boosts their commitment to the organisation and further job satisfaction. Employees are satisfied when their jobs promote creativity, independence and skill advancement. Also, effective relationships with other employees from the top to middle and bottom levels greatly influence employees' job satisfaction. such as supervisors, Job satisfaction is mostly fostered by effective communication, progressive teamwork, opportunity for career advancement, and management motivation (Nwokolo & Onuoha 2023). Employees embrace an organisation where the environment supports skill and professional development. Mentorship and coaching, training programmes, and job mobility are critical factors that increase employees' job satisfaction as they enable employees to advance in their professions and also achieve their full potential.

Job satisfaction is a yardstick that is being used to measure the extent to which employees feel fulfilled with their organisation's provisions and treatments. Unsatisfied employees feel not appreciated and recognised while those employees who are well-motivated in monetary value and other means feel respected and they are more likely to be committed to their organisations than those who are not satisfied (Ali & Anwar, 2021). Employee satisfaction depends squarely on the organisation's responsiveness to the required provision of tools and meeting the expectations of its employees such as giving better salaries, paying salaries as when due, giving bonuses, and incentives, healthcare coverage and retirement packages (Li, Goel, & Williams, 2023). Effective work-life balance is also an essential tool to enhance employee satisfaction. Job satisfaction is increased when employers provide flexible work arrangements, such as remote work options or adjustable hours, which enable workers to manage their work and personal obligations. Since the management takes strategic actions to drive a work environment that will support and promote remote work, office managers will be fully engaged, and productive, and achieve a better result. This approach will increase office managers' job satisfaction.

One of the advantages of a remote work system over traditional methods of handling office matters is the provision of a work environment that provides exceptional flexibility, efficiency, and adaptability. Recently, the emergence of remote work has consistently changed how business operations and activities are handled and managed. In all sectors and industries, remote work has gained popularity due to the advancement of technological tools and apps. Remote employees are individuals who work from distant locations instead of working in the physical office setting (Anyaegbunam, 2023). With this provision, employees can work from home, parks, sports centres, and other befitting places. It is mobile work and responses can be provided within the stipulated period. The availability and accessibility of communication and digital tools facilitate this move. The ease and convenience of working remotely have increased due to the widespread availability of cloud-based software, collaboration platforms, and high-speed internet. With this provision, employees can easily collaborate on projects, interact with others, and have access to business systems anywhere in the world (Ali et al., 2023; Anyaegbunam et al., 2023). The global economic development and digital transformation have led to the adoption of remote work by various organisations especially those who are viable on the Internet. Organizations leverage remote work arrangements and global labour pools to acquire specialized skills and expertise across national boundaries.

Remote work saves costs by cutting certain expenses. Businesses that embrace remote work may maximize their resources and commit funding to critical objectives. While remote work has various advantages for both businesses and individuals, it also poses its own set of obstacles. These concerns include communication, teamwork, business culture, and data security (Kurdy et al., 2023). To safeguard the complexity of remote work, organisations must formulate policies and organise relevant training programmes for remote employees. The employees should be able to use technologies to streamline collaboration and communication. Remote work represents a paradigm change in corporate operations and provides unparalleled freedom and potential for creativity (Nwokolo & Onuoha, 2023). Adopting remote work in offices will help businesses boost productivity, efficiency, and employee satisfaction in an increasingly digital and networked world.

The change to remote work has had a substantial influence on many facets of the workplace, including job satisfaction among office managers. Office managers are at liberty to control their schedules due to the flexibility of the system. Also, office managers can decide when and where to work since the assignment or task will be accomplished before the deadline. With remote work in place, office managers have the freedom to select when and where they work can in turn result

in a better work-life balance. Job satisfaction is enhanced as employees can control their work schedules. Remote work enables individuals and organisations to reduce travel time and expenses. Office managers no longer have to cope with the stress of rush hour traffic or congested public transit. The outcome of this practice is that it will reduce weariness to give more time for personal hobbies; thus leading to greater job satisfaction. Remote employment enables office managers to draw a line between work environments that meet their preferences. Their offices are well-equipped with facilities and resources to support remote work and also they customize their home office to their preference; thereby increasing comfort and productivity. A conducive work environment increases job satisfaction. Remote work enables employees to best draw a line between work and personal life, making it simpler for office managers to balance their professional responsibilities and personal obligations (Kakkar et al., 2023). The ability to combine work and life effortlessly can lead to higher job satisfaction. Remote employees are mostly viable on the Internet and they feel honoured when being acknowledged and rewarded for their performance. Without a visible presence in the workplace, it may be tricky for office managers to demonstrate their efforts and achievements. Organisations can assess office managers' performance criteria and programmes and also weigh the effectiveness of remote and check how office managers feel about the provision.

While remote work has numerous advantages, there are certain drawbacks, notably in terms of communication and cooperation. Office managers may fail to communicate effectively with their team members and supervisors, which can lead to feelings of isolation or disconnectedness. However, firms that provide proper support and communication tools can help office managers overcome these problems and retain high levels of work satisfaction. The effect of remote work on job satisfaction among office managers is varied. While it provides advantages including work flexibility and reduced commuting time, it also presents communication and performance issues. Organisations that effectively handle these difficulties and offer enough support for remote work might contribute to high levels of job satisfaction among their office managers. By these viewpoints, the study proposes to look at the substantial relationship between remote work and job satisfaction among office managers in chosen private firms in Ibadan, Oyo state. The specific objectives are to assess the level of job satisfaction of remote office managers in private organisations, identify the various dynamics of remote work of office managers, and investigate the significant correlation between remote work and job satisfaction of office managers in private organisations in Ibadan, Oyo State.

## **Objectives of the Study**

The main objective is to investigate the significant correlation between remote work and job satisfaction of office managers in selected private organisations in Ibadan, Oyo State. The specific objectives are to:

1. assess the level of job satisfaction of remote office managers in private organisations,
2. identify various dynamics of remote work of office managers, and
3. examine the significant correlation between remote work and job satisfaction of office managers in private organisations in Ibadan, Oyo State.

## **Research Questions**

The following questions were raised:

1. What is the level of job satisfaction of remote office managers in private organisations in Ibadan, Oyo State?
2. What are the dynamics of remote work of office managers in private organisations in Ibadan, Oyo State?
3. What is the significant correlation between remote work and job satisfaction of office managers in private organisations in Ibadan, Oyo State?

## **Hypothesis**

The below null hypothesis was tested at a 0.05 level of significance:

Ho1: There is no significant correlation between remote work and job satisfaction of office managers in private organisations in Ibadan, Oyo State

## **Review of Related Literature**

The term "job satisfaction" describes how satisfied employees are in their jobs. This idea covers a wide range of elements, such as behavioural, cognitive, and emotional components of a person's experience at work. Job satisfaction has to do with the emotions that workers experience at work, such as joy, excitement, and fulfilment (Sudibjo & Sutarji, 2020). While negative emotions often signal unhappiness, positive emotions typically indicate great work satisfaction. The dimension has to do with how employees feel about their jobs and what they believe about them (Sudibjo & Sutarji, 2020). It covers how important they believe their jobs are, how fair they think the remuneration is, and how fulfilling the work is. Employee behaviour at work, their degree of involvement, dedication, and desire to stay with the organisation are reflections of what job satisfaction is all about (Ardo, Gurin, & Buhari, 2024).

Job satisfaction among remote office managers is often correlated with high motivation. Office managers who are happy in their jobs will tend to perform excellently to those who do not (Issa, 2021). These people probably felt motivated and dedicated to reaching their career objectives. A feeling of purpose within the organization, possibilities for professional growth, personal fulfilment, and recognition of one's achievements are some of the possible sources of motivation. Enhancing work satisfaction among remote office managers also requires effective and transparent communication methods. According to Srivastava (2020), efficient communication increases trust, minimizes miscommunication, and makes sure that distant workers feel appreciated and included. Office managers would be happier in their positions if they felt that they were linked to their superiors and coworkers, received sufficient information, and received assistance.

Employees with excellent team spirit are happier in their jobs despite working from a physical distance. A strong sense of feeling with colleagues is one of the methods of building a mutual and better relationship. This implies employees will have similar objectives, and work well together to accomplish them. In agreement with this fact, Rowan et al. (2022) and Oteshova et al., (2021) state that creating a strong team culture increases a sense of support and belonging, even in a remote work environment, and this has a good effect on job satisfaction. Job satisfaction was greatly increased by remote office managers and their staff working well together. Remote work enables employees to utilise platforms and technologies that will boost collaboration and make it easier for employees to share information, generate ideas, and make decisions. Remote managers were more likely to be pleased with their contributions and the team's or organisation's overall success when they felt empowered to work well with their colleagues.

Remote work also referred to as telecommuting or telework, can be described as a work arrangement where employees do not commute to a central location of work. Instead of working physically at the office location, the employees operate remotely from another location other than a typical office setting (Hafshah et al., 2022; Choudhury, Foroughi, & Larson, 2021). The advancement of technological tools makes the dynamic nature of remote work possible. With the development of cloud computing, high-speed broadband, and the internet, employees can work from anywhere more easily. The global use of remote work was greatly hastened by the COVID-19 epidemic, indicating its feasibility (Atobishi & Nosratabadi, 2023; Kurdy, Al-Malkawi, & Rizwan, 2023). Over the past years, there has been a considerable evolution in remote work due to changes in organisational cultures and technical improvements.

The dynamics of remote work involve several factors, such as the accessibility of corporate systems, the availability and dependability of technological infrastructures, the flexibility and adaptability of employers and employees, and improvements in comfort and productivity. A dependable internet connection is essential for working remotely. Advances in fibre-optic and broadband technology have significantly improved the Internet's reliability and speed (Radziukiewicz, 2021; Rosario, 2020). These resources' availability permits easy communication and resource access. Due to the accessibility, scalability, and flexibility of cloud services (such as Google Cloud, Amazon Web Services, and Microsoft Azure), remote work adoption is feasible (Petla, 2023). Also for the benefit of individuals and organisations that are willing to communicate and collaborate with others virtually, tools like Zoom, Google Meet, Microsoft Teams, Slack, and Asana become essential for remote work. Technological infrastructures ensure easier operations and ongoing productivity by minimizing downtime and technical concerns (Olawale, 2024). Their great reliability also fosters trust between companies and distant employees.

Employees who operate remotely must adjust to new tools, time management techniques, and communication strategies. Numerous employees have demonstrated improved competence using digital tools and scheduling. Work schedule flexibility helps people better manage their personal and professional lives, which increases job satisfaction and lowers burnout (Shirmohammadi, Au, & Beigi, 2022). Change is inevitable and higher staff morale and retention rates are correlated with greater flexibility and adaptation. The flexibility of any organisation will draw a wider range of talent across the globe, including people who value work-life balance and those who are located in diverse areas. In agreement, Hafshah et al. (2022) asserted that employees can carry out their responsibilities without being restricted by geography when company systems are accessible from anywhere in the world, which promotes international cooperation.

Remote work significantly influences the job satisfaction of most employees including office managers. With the continuous rise of remote work, office managers, who were formerly defined by the administrative duties performed in an office, will have to adapt to some changes in the digital era. The advantages of adopting remote work during office operations are numerous such as increasing productivity, saving cost production, and boosting flexibility among others. However, remote work also has some drawbacks like the inability of employees to interact with others physically, lack of non-verbal communication, and imbalance in work-life especially those who are working from home. Therefore, organisations that desire to improve employees' job satisfaction and intend to embrace remote work should implement best practices and offer



sufficient assistance to their office managers. The result will be a productive and engaged workforce that is always ready to deliver as expected.

### **Empirical Studies on Remote Work and Job Satisfaction**

Nwokolo and Onuoha (2023) explored the association between remote work and employee satisfaction with deposit money banks in Rivers State. The survey design was utilized, and the population and sample sizes were 187 and 127, respectively. The basic random sample approach was utilized, and data were mostly acquired using a questionnaire. The data were analysed using Spearman Rank Order Correlation to examine the relationship between the aspects of remote work (work from home and job flexibility) and worker satisfaction (affective and cognitive satisfaction). The findings demonstrated a substantial relationship between the aspects of remote work and measures of worker satisfaction. It was found that remote work is an important tool in today's world that may help increase employee happiness while also benefiting businesses. It is advised that employers enable their employees to work from home on occasion since this will provide them with a sense of autonomy and boost their pleasure in the office.

In the study of Atobishi and Nosratabadi (2023), they used a unique way to identify the characteristics that influence employees' contentment with remote work. A conceptual research model was developed and evaluated using structural equation modelling (SEM). They discovered that work-life balance, institutional and technological support, job satisfaction, and perceived restricted communication all impact employees' contentment with remote work.

Kakkar et al. (2023) explored how work communication satisfaction in distant contexts affects employee alienation and job satisfaction. They developed their ideas based on the Sense-making and Social Information Processing (SIP) paradigm. To test the assumptions, 418 employees from diverse Indian firms provided primary data, which was analysed using Amos and Hayes' Process macro for SPSS. They discovered that work communication satisfaction is negatively associated with alienation and positively associated with job satisfaction. They concluded that organisations can raise employee satisfaction with work-related communications by developing remote communication strategies that make clear what is expected of staff members in terms of contact frequency, goal, and channel.

Anyaeibunam, Ibegbulam, and Adigwe (2023) investigated the effects of modern office communication amenities on workers' productivity in the country's mobile communication sector.

They conducted a descriptive survey with a sample size of 323 respondents drawn from a 1690 population. The data was collected via a questionnaire. They discovered that mobile phone communication has a positive significant influence on employee job performance (t-statistics (6.684) > p-value (0.000), e-mail communication has a positive significant influence on employee job performance (t-statistics (5.312) > P-value (0.000), and video and web conferencing communication has a positive significant influence on employee job performance (4.312) > p-value (0.000). They recommended that the management of the communication industry in Nigeria should adopt the use of the telephone in the organisation to help fasten the sharing of information among employees and reduce employees moving around to pass information.

## Methodology

The study adopted a descriptive survey design. The population and sample size were 1,696 and 149 respectively. The sample size was determined using the online smart survey sample size calculator at the confidence level of 80% and margin error of 5%. The data were primarily sourced and the outcome of the instrument reliability test conducted was a Cronbach's Alpha value of 0.79. Data were collected through the e-questionnaire and through visitation of the researchers to some of the private organisations where they have contacts. Out of the expected 149, the researchers successfully obtained 87 responses. The data were analysed using descriptive statistics [mean and standard deviation] and inferential statistics [testing the null hypothesis using Pearson Correlation model at the significance level of 0.05].

## Results

**Table 1: Demographic Data Analysis**

Characteristics		Frequency	Percentage (%)
Gender	Male	17	19.5
	Female	70	80.5
Marital Status	Married	65	74.7
	Single	22	25.3
Age Range	Less than 20 years	1	1.1
	20 - 30	18	20.7
	30 - 40	24	27.6
	41 - 50	32	36.8
	51 years and above	12	13.8
Educational Qualification	NCE/ND	8	9.2
	HND/B.Sc.	63	72.4
	M.Sc./MBA	16	18.4
	PhD	0	0.0
Length of Service	Less than 5 years	9	10.3
	6 - 10	19	21.8
	11 - 15	21	24.1
	16 - 20	27	31.0
	Above 20 years	11	12.6

Source: Field survey, 2024

Table 1 shows that most of the respondents were female (70; 80.5%), married (65; 74.7%), and fall within the age range of 30 to 50 years (56; 64.4%). Most of the respondents (63; 72.4%) primarily hold HND/B.Sc. qualifications. The highest number of respondents have been in service for 16 to 20 years representing 31%. This demographic profile provides insights into the composition of the surveyed population.

**Table 2: Job Satisfaction of Remote Office Managers**

S/N	Items	Mean	StDev	Remark
1	High work engagement	3.32	1.82	Accepted
2	High motivation	3.89	1.97	Accepted
3	Effective communication	3.70	1.92	Accepted
4	Effective team spirit and collaboration	3.88	1.97	Accepted
<b>Average mean and standard scores</b>		<b>3.75</b>	<b>1.94</b>	

Source: Field survey, 2024

According to Table 2, remote office managers at private firms in Ibadan, Oyo State, report high levels of work satisfaction. The average score of 3.32 indicates that respondents reported a moderate level of work involvement, with some variation shown by the standard deviation of 1.82. While the mean score is lower than other statements, it is nevertheless seen as favorable. With an average score of 3.89, respondents appear to be reasonably motivated in their employment. The standard deviation of 1.97 suggests considerable variation, but the general level of drive is seen as positive. This statement had a mean score of 3.70, suggesting that respondents believe communication inside their businesses is successful. The standard deviation of 1.92 indicates considerable variation, but generally perceptions of communication efficacy are good. With a mean score of 3.88, respondents tend to be optimistic about cooperation and collaboration in their businesses. Similar to desire, there is some fluctuation as evidenced by the standard deviation of 1.97, but the average perception is considered favorable. The mean score for all statements is 3.75, with a standard deviation of 1.94. This suggests that, on average, remote office managers in private firms in Ibadan, Oyo State, report moderate to high work satisfaction across the survey's categories. Individual reactions vary, but typically, the trend is good.

**Table 3: Dynamics Remote Work of Office Managers**

S/N	Items	Mean	StDev	Remark
1	Availability and reliability of technology infrastructures	2.43	1.56	Rejected
2	Flexibility and adaptability from both employees and employers	3.77	1.94	Accepted
3	Accessibility of corporate systems and works anywhere in the world	3.31	1.82	Accepted
4	Increment in comfort and productivity	3.29	1.81	Accepted
<b>Average mean and standard scores</b>		<b>3.20</b>	<b>1.78</b>	

Source: Field survey, 2024

In Table 3, the mean and standard deviation scores for each statement were shown correctly. Respondents perceived the availability and dependability of technology infrastructures for remote work to be rather poor or inconsistent (mean: 2.43, SD: 1.56). The mean is 3.77, and the standard deviation is 1.94, indicating that respondents want both individuals and employers to be flexible and adaptable when it comes to remote work. The higher mean score suggests a generally favorable view, notwithstanding considerable diversity in replies as reflected by the standard deviation. Respondents typically perceived corporate systems to be accessible and capable of working from anywhere in the world, facilitating remote work (mean: 3.31, standard deviation: 1.82). While the mean score is significantly lower than for flexibility and adaptability, it still suggests a generally good view. Increase in comfort and productivity. Respondents perceived remote work to boost both comfort and productivity (mean 3.29, standard deviation 1.81). The mean score is comparable to the accessibility of corporate systems, showing a favorable general view despite considerable diversity in replies. The overall mean score for all assertions is 3.20, showing that respondents had a generally good attitude about distant work dynamics. The average standard deviation is 1.78, indicating some diversity in replies, especially for aspects like technological infrastructure availability and dependability. Flexibility and flexibility, as well as the accessibility of corporate processes, are evaluated more positively than technological infrastructure, indicating possible areas for development in facilitating remote work for office managers in private organisations in Ibadan, Oyo State.

**Table 4: Pearson Correlation Analysis of Remote Work and Job Satisfaction of Office Managers in Selected Private Organisations in Ibadan, Oyo State**

Statistics		(RW)	(OMJS)
Remote Work (WF)	Pearson Correlation	1	.768**
	Sig. (2-tailed)		.000
	n	87	87
Office Managers' Job Satisfaction (OMJS)	Pearson Correlation	.768**	1
	Sig. (2-tailed)	.000	
	n	87	87

*\*\*Correlation is significant at the 0.05 level (2-tailed)*

In Table 4, the Pearson correlation result [ $r = 0.768^{**}$ ,  $p\text{-value} < 0.00$  and sample ( $n = 87$ )] showed that the two variables (remote work and job satisfaction) were significantly related. Based on this result, the null hypothesis is rejected and the alternative is accepted that there is a strong significant relationship between remote work and job satisfaction of office managers in selected private organisations in Ibadan, Oyo State.

## **Discussion of Findings**

### **Research Questions 1: What is the level of job satisfaction of remote office managers in private organisations in Ibadan, Oyo State?**

The result revealed that remote office managers who reported high levels of job satisfaction were likely deeply engaged in their work. The result is in line with the view of Issa (2021) who asserted that high job satisfaction of office managers will reduce their turnover rates and boost their productivity and efficiency. Also, Nwokolo and Onuoha (2022) stated that employees who felt a sense of autonomy and control over their work, which can significantly boost engagement. Remote work has emerged as a revolutionary force, altering corporate operations and employee engagement (Atobishi & Nosratabadi, 2023). In all, it means employees found their tasks meaningful, challenging, and aligned with their skills and interests.

### **Research Questions 2: What are the dynamics remote work of office managers in private organisations in Ibadan, Oyo State?**

A combination of factors shapes the dynamics of remote work such as technology infrastructure, adaptability, system accessibility, and increased comfort and productivity. Strong systems and dependable technologies are fundamental to foster organisations and employees' flexibility and adaptability. Petla (2023) asserted that remote work has become easier as they offer scalable, on-demand access to computer resources and data storage. Also, Shirmohammadi, Au, and Beigi, (2022) agreed that work schedule flexibility helps employees better manage their personal and professional life, which increases job satisfaction and lowers burnout. Accessibility to organisational systems guarantees smooth operations throughout the world, and enhanced comfort and a better work-life balance lead to higher output. When combined, these elements foster an atmosphere that is favourable to the long-term success of remote work.

The outcome [ $n=87$ ,  $r = 0.768^{**}$ ,  $p\text{-value} < 0.00$ ] proved there is a strong significant relationship between the two variables (remote work and job satisfaction of office managers) and the result is in accordance to the view of Nwokolo and Onuoha (2023) who investigated the relationship between remote work and employees' satisfaction of deposit money banks in Rivers State. They found that a significant relationship existed between remote work and employees' satisfaction and recommended that organisations should sometimes allow their employees to work from home as such will give them a sense of autonomy which will thus enhance their satisfaction in the workplace. In addition, Atobishi and Nosratabadi (2023), who identified those factors that affect employees' satisfaction with remote work, found that work-life balance, institutional and

technological support, job satisfaction, and perceived limited communication are, respectively, elements that influence employees' satisfaction with remote work.

In other study, Kakkar et al. (2023), who investigated the impact of work communication satisfaction in remote environments on employee alienation and job satisfaction, found that work communication satisfaction is negatively associated with alienation and positively associated with job satisfaction and concluded that organisations can improve work communication satisfaction by devising remote communication plans that clarify employee expectations regarding the frequency, purpose and channel of communication.

This study suggests that remote work can be a valuable strategy for enhancing job satisfaction among office managers in private organisations in Ibadan. However, it emphasises the importance of addressing challenges and implementing supportive measures to maximize the benefits of remote work for both individuals and organisations.

## **Conclusion**

In conclusion, the study on the impact of remote work on job happiness among office managers in selected private firms in Ibadan reveals that distant work appears to have a generally beneficial effect on office manager job satisfaction. This is most likely due to increasing autonomy, more flexible work hours, and less commute stress. Remote employment enables office managers to better combine their professional duties and personal commitments, resulting in increased job satisfaction. The study implies that remote work can contribute to higher productivity among office managers by giving them the option to create their work environment according to their preferences. Despite the benefits, the study emphasises some of the drawbacks of remote employment, such as feelings of isolation and communication issues. Organisations must address these problems by developing supporting policies and allocating enough resources for remote work. The research underscores the importance of organisational support in facilitating successful remote work arrangements. This includes giving access to appropriate technologies, creating clear communication channels, and cultivating a culture of trust and collaboration.

## **Recommendations**

Based on the study's findings and conclusion of this study, some recommendations were made that management should consider implementing flexible remote work policies that allow office managers to balance their work responsibilities with personal commitments; they should ensure that office managers have access to the necessary technology and infrastructure to support remote



work effectively; management should also establish clear communication channels to facilitate effective communication between remote office managers and their teams; they should offer training and support to help office managers adapt to remote work environments successfully; they should also build a culture of trust and accountability within the organisation to support remote work arrangements; and they should solicit regular feedback from office managers about their remote work experiences and job satisfaction levels.

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## **Impact of Electronic Records Management System on the Security of Records among Administrative Staff**

**<sup>1</sup>Sudetu OSENI & <sup>2</sup>BAKARE-FATUNGASE, Oluwabunmi D.**

<sup>1</sup>Department of Office Technology & Management, Auchi Polytechnic, Auchi, Nigeria

<sup>2</sup>Department of Information Management, Lead City University, Ibadan, Nigeria

<sup>1</sup>osenisudetu@auchipoly.edu.ng: +234-805-823-1607

<sup>2</sup>bakare.oluwabunmi@lcu.edu.ng: +234-806-636-5376

### **Abstract**

*The importance of Information and Communication Technology (ICT) in the day-to-day running of an organisation cannot be overemphasised. This is due to the tremendous changes which have taken place in the office over the years as a result of technological advancement. As a result of the changes in technology, the way administrative staff in most organisations carry out their duties has changed tremendously. Administrative staff of modern business organisations of which the tertiary institutions are not exempted, are exposed to office technologies. These administrative staff also act as the chief organizers of the office as far as records management is concerned. They handle records creation, utilization, storage, safety and final disposition of records among other activities thus playing significant roles in the management of the office and office records generally. Although the administrative staff have become a part of today's smart offices as a result of their usage of ICT gadgets for effective records management and overall job performance, their efficiency and effectiveness lies on the availability of these ICT gadgets together with good records security programmes and protocols in order to ensure safety of the records. This study therefore, investigated the security of electronic records management system and administrative staff performance of Public Polytechnics in Edo State. The study adopted a positivist research paradigm and a quantitative research approach. The Information Security Model was the theory guiding the study so as to ascertain the confidentiality, integrity and availability of the records.*

**Keywords:** Administrative Staff Records, Electronic Records Management System, Records Management, Records Security,

### **Introduction**

Organisations need functioning records and archive management in order to succeed in the present-day business environment that is associated with risks, uncertainties, increased crime rate, etc. Records is any form of written correspondence that serves as evidence which need to be maintained properly for future reference. It is a document that is created, received, maintained and used by either an organisation or an individual for the pursuit of legal obligation, or for the transaction of any business of which it provides evidence (Shepherd, 2016). In today's world, the continuous increase in the volume of information has changed the way organisations carry out their businesses. The nature and manner in which information is created, preserved, analysed and supplied has gone through significant changes. Though ICT can effectively manage these stages

of the life cycle of records, it needs to be used with an understanding of the records and information management principles in order not to invite haphazard **effects** (Ashantti, 2019). Records is regarded as any information that is created, received and maintained which serve as evidence as well as asset either by an organisation or individual in the pursuant of any legal obligations or for the purpose of transacting business. There are many purposes as well as benefits of records management. However, it is to be highlighted here that the ability to serve as evident is a key feature of records which can be preserve through proper records management (Popoola, 2020).

Records management has to do with everything involving how records are controlled right from when they are created down to when they are finally disposed of. It involves how records are created, received, maintained, used and finally disposed of. It is a significant part for the success of any business organisation. When we say a record, we are simply referring to a document that involves business transaction which has to be documented. This may be letters, memoranda, reports etc., that exist both in the paper form and electronic form. Records in paper form may be physically saved in cabinets, boxes or other means while records in digital form may be saved using electronic storage devices or cloud (Lyman, 2014). Many companies have records that are confidential. Such confidential records are improved by records management through security protocols which act as protective guides to the records. By so doing, accountability is ascertained by employees for effective records management. Records security covers the tools and processes that organisations use to protect records. This includes policy settings that prevent unauthorized people from accessing business or personal information. Ambira, Kemoni & Ngulube (2019) carried out a study and found that security of records ensures that records are protected from unauthorized activities, including inspection, modification, recording and any disruption or destruction. The consequences of security incidents include theft of private information, data tampering and data deletion. Security is one step in records management plan, but one of the most important. The creation and utilization of records in educational institutions including polytechnics in Edo State are some of the key factors that contribute to the strengthening of quality service delivery in such institutions. Reliable and timely information leads to effective management policies and planning. This improves the general records management of a country thus serving as a vital element for the overall growth and development of the institutions in managing and improving quality service delivery (Ahmed, 2020; Abdullah, 2017).

Efficient management of records is essential for data security and good governance of the data. Long term benefits include more effective use of resources, support for access to information and easy retrieval of information regarding past activities. Some studies carried out by Joshi &Singh (2017) shows that poor decisions, failure to secure information as well as inefficiency are some of the consequences of poor records management. Security of records is in itself, a legal data protection requirement as well as supporting good data governance. Poor record security causes harm and distress as well as leaving the systems and services at risk to individuals in particular and the institutions in general (Joshi &Singh, 2017).

Information and Communication Technologies (ICTs) role in ensuring that information is well managed cannot be downplayed. This confirms the fact that ICT has the ability to generate, preserve, retrieve, process and communicate large volumes of information across various locations. The adoption of ICTs in records management has tremendously improve the reliability and effectiveness of records as well as strengthening high quality service delivery through innovative applications and programmes such as the electronic records (Yusuf, 2014). Records management has gone through series of advancements for a long time now as a result of the adoption of ICT. This has improved the way tasks are performed in organisations (Alex, 2017).

Electronic Records Management (ERM) has become mandatory for government agencies in applying electronic records in administration to encourage E-government. Most organisations have huge allocation for ICT development but poorly management which has led to poor records-keeping and lack of attention. Some electronic records are far from complete, clear or easy to access. A large number of organisations today are carrying out electronic records management system without putting any policy in **place** (Umi & Zawiyah, 2019). **There** is a low support for records management that has led to a lack of training, tools and guidelines for all staff, as well as poor integration of records management and Information Technology (IT) disciplines (Rick, 2016).

Polytechnic records whatever the format, usually house the institutions' records which mainly contains all aspects of students' management. It is an important tool in the running of the day-to-day activities of the institutions needed to carry out business operations both within and outside the institutions. The introduction of Information Technology (IT) into businesses, educational institutions and government agencies has led to an explosion of information as well as an increase in the volume of records. Educational institutions are mostly affected by this growth. This is



because most of the information is routed to business and government offices for administrative effectiveness. Hence, all records managers and other registry staff in all the institutions' establishments need records and archives for effective management and good decision making.

From the forgoing, it can be deduced that recorded information has undergone series of changes in the ways they are contained and even how they are produced from one human civilization to another, dating from the time of the papyrus, clay tablets, skin and paper down to the present age of electronically generated records using ICTs. A record is not defined by its physical format or storage medium, its age, or the fact that it has been set aside for preservation, nor is it simply a form of recorded information. The essential characteristic of a record is that it provides evidence of some specific activities. Traditionally, organisational staff created records manually, using pen, ink or a typewriter. In the modern world, most records are created using digital technology, by interaction with a computer programme. Records maintained digitally are known to record managers as electronic records (or digital records). Both terms refer specifically to records created or received electronically, which are then maintained in electronic form, as opposed to records created using word-processing or other software and then printed on paper (Popoola, 2020; Okuonghae & Bakare-Fatungase, 2023). Electronic records are evidence of the activities in organisations and they are usually the soft copy versions of traditional paper records. Desktop Publications such as Word, Excel, PowerPoint, Access, Outlook, and email, corporate databases etc. are the sources of electronic records.

### **Security of Records**

Security is the degree of protection against danger, loss, and criminals. This shows that records should be protected from both damage and unauthorized access. The security method usually depends solely on the method of storage adopted. With the use of computers, maintenance of confidentiality can be done with the use of password to a document or file. With this, it becomes difficult for another user to gain access to the document or file. Most organisations now store their information on the computer thereby creating more space in the office. The level of security varies as it depends on the content of the record. Some records may have a very low level of sensitivity, requiring very little or no security. Others with a higher level of sensitivity, need higher security measures. The accessibility of a record should depend on its level of sensitivity. When one has decided how sensitive a record should be, one will then need to think about who needs to have it, and who should have access to that record. Further, if data/information has to be sent to another location, either within or outside the organisation, then all necessary security precautions should



be taken to protect it in transit. This will include sending in the most appropriate format, or packaging appropriately, and addressing correctly (Ashantti, 2019).

Authenticity of records applies to both paper records electronic records. Most times, some specific difficulties result with maintaining the integrity of electronic records for instance records kept on email, or data contained in a database. Controlling access to the record or data, knowing who has responsibility for and access to the record or data, preventing accidental or malicious change as far as possible, checking the accuracy of the information or data recorded, etc at regular intervals should be some measures taken. Business organisations, educational institutions and government agencies should consider the best medium suitable for effective records keeping and will most likely secure the records. Such records need adequate backup in order to guard against loss, particularly if they are vital or business critical in some way. Records should be stored safely and securely, both electronically and physically. Sensitive documents should not be left on the desk or computer screen when unattended. Organisations should consider the best method of disposal of the records, at the end of their lifetime.

One of the top priorities of any staff in charge of records management should be the implementation of a proper security measures to make sure that critical records are not vulnerable to a breach. If one aspect of security measures breaks down, it will expose the organisation to the risk of a data breach, which can lead to the payment of a large fine, a damaged reputation, as well as causing the business to go into liquidation. Security threats in records management include malware and data breaches to theft, fire or flood, making it essential to include different types of security measures in managing records. Management of records need adequate protection for both the paper records and the electronic records. Records management security involves three main parts - ensuring protection from physical damage, external data breaches, and internal theft or fraud (Fletcher, 2016).

Proper records management should entail security of the records. Security of records includes personal records of staff and students, records relating to teaching and research (particularly prior to publication), records of the institutions' activities etc. As a general rule, if the loss or unauthorized access or editing of the records could cause damage to the institutions or stop the administrative staff from doing their work, it will need greater security. Electronic records are particularly vulnerable to unauthorized or inadvertent change and loss. Administrative staff have a responsibility to consider security when handling records in the course of their work.

## **Security of Records using Electronic Records Management System**

Electronic records management is a subset of Information and Communication Technology (ICT), which entails a sophisticated electronic approach of managing official records in organisations. Electronic records management system is the care and maintenance of electronic and non-electronic records using computer hardware and software (Ngoepe, 2014). Electronic records management includes 'the creation, use, maintenance, protection and disposal of electronically created records for the purposes of providing evidence of business activities (Ambira, Kemoni & Ngulube, 2019). Organisations are fast moving toward electronic records management due to advancements in paperless office procedures. In order to ensure that electronic records are prevented from unauthorized access, alteration, theft, or physical damage to the records, electronic record protection practices are needed to place limitations on user access to computer systems and to have control over the physical storage of electronic records.

Electronic records protection involves the use of computer applications and tools to ensure security of digital records. An example of a record protection application is Microsoft Access (MS Access). MS Access provides security features that prevent unauthorized users from trying to gain access to confidential database information and loss of data in case of a system crash. Examples of record protection practices include use of password on documents, token, smart card, biometric (fingerprint/face) encryption and so on. MS Access is among the record management applications being used mainly in offices, banks and companies where various categories of staff work (Lawrence, 2010).

Electronic records protection practices include firewalls, passwords, encryption, security copies and access rights for each user category and tools are used for securing electronic records confidentiality, integrity, accuracy and trustworthiness. Electronic records protection is the application of paperless management principles supported by specialized information technology systems used to safeguard business and personal information of an organisation. The protection of electronic records requires planning, budgeting, organizing and other managerial activities evolved so as to achieve adequate safety and security of official information. In the same view, an electronic records protection system is primarily a software-based methodology, used by an organisation to manage all its records, regardless of format over the entire records life cycle (Ile & Ojohwhoh, 2020).

Electronic records management practices in polytechnics is very important and it demands administrative staff of such polytechnics to keep up with electronic records protection practices.

Security of official information is becoming a serious threat in many polytechnics in Nigeria as a result of traditional paper filing system of record management practices adopted by administrative staff. Information has always been a valuable resource for all kinds of organisations, but now more than ever, in the current knowledge and innovation economy, academics and professionals accept that information and its good management are vital for the survival and development of businesses, as an essential asset for the proper management of organisational knowledge (AIIM, 2018).

Electronic record management systems provide a well-established access control measures which only allows authorized access of records stored in the database. Through measures such as encryptions and setting up of passwords and pins, the system prevents unauthorized access to confidential records/data. This ensures that sound service delivery is uninterrupted as the records' availability, integrity and authenticity is always well guaranteed. Interestingly, organisations will realize the effectiveness of information governance in long term when productivity, user confidence, trust and service delivery is acknowledged. The authority in place that defines on the access, retrieval or storage procedure only becomes relevant when there is shared responsibilities and collaboration for greater results in the organisation (Oliverio, Pasewark & White, 2015).

Confidentiality, integrity and availability of ERMS are the measures adopted for Security of ERMS from the Information Security Model propounded by Thomas, B. in the 1970s. Security of records is the preservation of confidentiality i.e. protecting records from unauthorized access and disclosure; integrity which is ensuring that the authenticity, accuracy and completeness of records is safeguarded; and availability i.e. ensuring that the records and associated services are available to authorized users when required (Joshi & Singh, 2017). Adequate protection is essential for all forms of records, whether paper or electronic. This is to ensure business continuity and efficiency as well as to avoid breaches of statutory, regulatory or contractual obligations. Public tertiary institutions, especially polytechnics in Edo State and their records systems face security threats from a wide range of sources, including computer-assisted fraud, sabotage, vandalism, theft, fire or flood. Damage caused by breaches such as computer viruses and computer hacking are becoming increasingly common and sophisticated these days. They are increasingly exposed and vulnerable to security threats.

Polytechnics produce hundreds of records on a daily basis. This means that the volume of records will be accumulated within a given period of time. This may bring about difficulty in locating some records and safety of the records as well as poor integration of records management and

Information Technology (IT) usage. This becomes the major challenge for paper records. This has also led to the challenge of retrieval of information within these institutions as it is always very difficult (at times impossible) to locate some records. All these anomalies may lead to the loss of image of such an institution. Hence, the need to investigate the security of ERMS and administrative staff performance in the Public Polytechnics in Edo State.

### **Summary of Gaps in Literature**

Although there is literature on e-records management, many of the studies were conducted in fields other than tertiary institutions, including the mainstream civil service, businesses, and other organisations (Malanga & Kamanga, 2018). The limited studies that have already been conducted in this field, however, offer a bleak image of the condition of e-records management in tertiary institutions. The relationships between governance, audit, risk and record keeping are a central concern of the discipline of records management. Previous research conducted were carried outside Africa and very few in Nigeria. Studies focusing on investigating the impact of security of ERMS seem to have received less attention. Hence, the uniqueness of this work which aims at investigating the concept among administrative staff in Public Polytechnics in Edo State, Nigeria. This is the gap this study has identified to fill in the research.

### **Statement of the Problem**

The awareness of Information and Communication Technology (ICT) and its associated facilities have grown rapidly in the management and service delivery of tertiary institutions over the last few decades. Paper-based records are fast giving way to electronic records in most developed countries and crawling gradually into the developing countries including Nigeria. The electronic records management system is designed to alleviate the limitations associated with the paper-based records management system and helps improve the quality of immediate retrieval of information within the sector. Unfortunately, the implementation of large-scale information technology projects such as electronic records management system seems to be associated with high failure rate. This challenge can be perceived to be even higher in developing countries like Nigeria. Preliminary investigation showed that some public tertiary institutions in Nigeria still use the traditional record management system. In this traditional record management system, the greatest issue is the safety of the increasing number of tertiary institutions' records which has been the major challenge that many institutions are facing. Although several studies have been carried out on implementation of ERMS across the globe (Pan, 2017; Ambira, Kemoni & Ngulube, 2019), however, study focusing on security of ERMS seems to have received less attention. For this

reason, this study seeks to investigate the impact of security of electronic records management system among administrative staff of Public Polytechnics in Edo State.

### Aim and Objectives

The aim of this study is to examine the security of ERMS and administrative staff performance in the Public Polytechnics in Edo State. The specific objectives are to:

1. determine the level of confidentiality of ERMS among administrative staff in the public polytechnics in Edo State.
2. determine the level of integrity of ERMS among administrative staff in the public polytechnics in Edo State.
3. determine the level of availability of ERMS among administrative staff in the public polytechnics in Edo State.

### Research Questions

The following questions were raised to guide the study:

1. What is the level of confidentiality of ERMS among administrative staff in the public polytechnics in Edo State?
2. What is the level of integrity of ERMS among administrative staff in the public polytechnic in Edo State?
3. To what extent are the records of ERMS available among administrative staff in the public polytechnics in Edo State?

### Methodology

The survey research design was adopted for this work. A descriptive survey design describes a condition or phenomenon as it exists naturally without manipulation. The population comprised of Two Hundred and Forty-five (145) administrative staff in Public Polytechnics, Edo State, Nigeria. The two (2) Public Polytechnics in Edo State are Auchi Polytechnic, Auchi and Edo State Polytechnic, Usen. This is represented on the table below:

**Table 1: Population of Respondents**

S/N	Public Polytechnics	Population
1.	Auchi Polytechnic, Auchi	190
2.	Edo State Polytechnic, Usen	55
<b>Total</b>		<b>245</b>

**Source: Field work, 2024**

The stratified and simple random sampling techniques were used to select a sample size of 74 (seventy-four) administrative staff. This represented 30% of the population.

The population and sample are represented in the Table 2 below:

**Table 2: Population and sample size of Respondents**

S/N	Public Polytechnics	Population	Sample
1	Auchi Polytechnic, Auchi	190	57
2	Edo State Polytechnic, Usen	55	17
	<b>Total</b>	<b>245</b>	<b>74</b>

**Source:** Field work, 2024

The instrument for data collection was the structured questionnaire titled: Security of Electronic Records Management System Scale (SERMS Scale). The instrument is a structured questionnaire adapted from previous empirical studies. This study also adopted the Likert scale design which allows the respondents to provide their opinion about the issue under study. The instrument is made up of two sections. Section A contains the demographic information of respondents which is self-developed. The Bio-data of respondents will be measured through five (5) factors, namely gender, age, marital status, educational qualification and years of experience. Section B was designed to collect data on Security of Electronic Records Management System by administrative staff. The 12 items were adapted from existing literature. The scale used a 4-point response format of SA – Strongly Agree, A – Agree, D – Disagree, SD – Strongly Disagree. Face and content validity was used for this work with the input of some experts in the field of information management. The items for the instrument were gathered through related literature review and adaptation from questionnaires that have been used by other researchers. Corrections made were incorporated in constructing the final questionnaire.

The instrument was subjected to a reliability test to check internal consistency of all items measuring the variable in the study. The reliability of the instrument was done through a pilot study using 20 copies of the questionnaire which were administered to office managers in Kogi State Polytechnic, Lokoja. Data obtained were analysed and compared to determine the reliability consistency of the items. Primary data was collected to address the objectives of the study through a structured questionnaire in line with existing literature. This instrument worked well with descriptive survey research mainly because it supports the collection of data regarding opinion and perception of respondents at a point in time on current issues. The copies of questionnaire were administered by the researcher with the assistance of three research assistants. The research assistants were briefed on the purpose of the research and how to administer the instrument. Copies of the questionnaire were administered to the office managers of the two polytechnics and were retrieved the same day. The whole exercise was done within two weeks. The data were analysed using descriptive statistics (simple percentage and mean).



## Data Analysis

Data were collected by distributing the seventy-four copies of the questionnaires to the respondents in their various institutions and the questionnaires were all retrieved. The analysis is done thus:

**Table 3: Gender Analysis of Respondents**

S/N	Gender	Respondents	Percentage (%)
1.	Male	20	27
2.	Female	54	73
<b>Total</b>		<b>74</b>	<b>100</b>

**Table 4: Age Analysis of Respondents**

S/N	Years Range	Respondents	Percentage (%)
1.	20 – 30	15	20
2.	31 - 40	26	35
3.	41 – 50	18	25
4.	Above 50	15	20
<b>Total</b>		<b>74</b>	<b>100</b>

**Table 5: Marital Status Analysis of Respondents**

S/N	Marital Status	Respondents	Percentage (%)
1.	Single	28	38
2.	Married	46	62
<b>Total</b>		<b>74</b>	<b>100</b>

**Table 6: Educational Qualification Analysis of Respondents**

S/N	Years Range	Respondents	Percentage (%)
1.	NCE/ND	09	12
2.	HND/B.Sc	46	62
3.	M.Sc/MBA	19	26
4.	Others	-	-
<b>Total</b>		<b>74</b>	<b>100</b>

**Table 7: Working Experience Analysis of Respondents**

S/N	Years Range	Respondents	Percentage (%)
1.	0 – 10	14	19
2.	11 - 20	31	42
3.	21 – 30	17	23
4.	Above 30	12	16
<b>Total</b>		<b>74</b>	<b>100</b>

**Table 8: Tabular Analysis of Responses to Research Question One**

**What is the level of confidentiality of Electronic Records Management System among administrative staff of Public Polytechnics in Edo State?**

Items	Statement	Variables	Responses	Percentage (%)
1.	Confidentiality of ERMS promotes best practices of managing records.	SA	41	55
		A	25	34
		D	6	8
		SD	2	3
Total			74	100
2.	Ensures security of the database management.	SA	40	54
		A	34	46
		D	-	
		SD	-	
Total			74	100
3.	Ensures rights and privileges in access to specific database.	SA	40	54
		A	23	31
		D	5	7
		SD	6	8
Total			74	100
4.	Promotes authenticity and integrity of the system.	SA	53	72
		A	21	28
		D	-	
		SD	-	
<b>Total</b>			<b>74</b>	<b>100</b>

Source: Field survey, 2023

**Table 9: Tabular Analysis of Responses to Research Question Two**

**What is the level of integrity of Electronic Records Management System among administrative staff of Public Polytechnics in Edo State?**

Items	Statement	Variables	Responses	Percentage (%)
1.	Data integrity in the ERMS positively affects the efficiency of our operations and the quality of our decisions.	SA	62	84
		A	12	16
		D	-	-
		SD	-	-
		<b>Total</b>	<b>74</b>	<b>100</b>
2.	Integrity requires awareness of unclean data from the pre-implementation stage of the ERMS.	SA	23	31
		A	29	39
		D	13	18
		SD	9	12
		<b>Total</b>	<b>74</b>	<b>100</b>
3.	I understand the concept and the value of integrated data available from the ERMS.	SA	34	46
		A	23	31
		D	12	16
		SD	5	7
		<b>Total</b>	<b>74</b>	<b>100</b>
4.	Integrity requires control of unclean data from the pre-implementation stage of the ERMS.	SA	19	26
		A	30	40
		D	14	19
		SD	11	15
		<b>Total</b>	<b>74</b>	<b>100</b>

**Table 10: Tabular Analysis of Responses to Research Question Three**

**To what extent are the records of Electronic Records Management System available among administrative staff of Public Polytechnics in Edo State?**

Items	Statement	Variables	Responses	Percentage (%)
1.	ERMS has eased the management and retrieval of information.	SA	36	49
		A	38	51
		D	-	-
		SD	-	-
		<b>Total</b>	<b>74</b>	<b>100</b>
2.	ERMS brings efficiency through time management.	SA	25	34
		A	45	61
		D	4	5
		SD	-	-
		<b>Total</b>	<b>74</b>	<b>100</b>
3.	The use of ERMS brings about quick retrieval of records.	SA	25	34
		A	30	41
		D	15	20
		SD	4	5
		<b>Total</b>	<b>74</b>	<b>100</b>
4.	ERMS ensures records are only available to authorized users.	SA	11	15
		A	14	19
		D	28	38
		SD	21	28
		<b>Total</b>	<b>74</b>	<b>100</b>

## Results

This section deals with the results obtained from the analysis of data. 49 questionnaires were issued to the various respondents in their schools and they were all retrieved representing a 100% retrieval rate. The following results emerged from the demographic data: females are more among the population study; the respondents with the age ranges of 31 – 40 years are more among the population study. There are more married respondents among the population study. The respondents with HND/B.Sc. holders are more among the population study. The respondents that have worked between the ranges of 11 – 20 years are more among the population study.

The following are the results from the responses to the three research questions: the administrative staff ensures that records stored with ERMS are of the utmost confidentiality; the use of ERMS by administrative staff ensures that the integrity of information is enhanced; and the use of ERMS ensures that information is easily and readily available and in the same format when required as well as enhancing their safety.

## Discussion of Findings

Administrative staff of Public Polytechnics in Edo State ensures that records stored using ERMS are secured and are of utmost confidentiality as confidentiality promotes best practice for managing the records. This finding agrees with Ambira, Kemoni and Ngulube (2019) who asserted

that security of records ensures that records are protected from unauthorized activities, including inspection, modification, recording and any disruption or destruction. When records are kept confidential from unauthorized usage, their authenticity is guaranteed. This is because confidentiality of records ensures that records are kept from unauthorized access or disclosure. The use of ERMS by administrative staff ensures the security of the records by ensuring that the integrity of records is maintained. Data integrity in the ERMS positively affects the efficiency of operations and the quality of decisions. This is because integrity of records safeguards the authenticity, accuracy as well as ensuring the completeness of such records.

The use of ERMS by administrative staff ensures the security of the records by ensuring that information is easily and readily available and in the same format when required as well as enhancing their safety. This is because the available of records ensures that the records are available to authorized users when they are required. This finding agrees with Joshi & Singh (2017) who outlined some of the consequences of poor records management to include poor decisions as a result of failure to handle information securely and easy retrieval. The use of ERMS has eased the management and retrieval of information thereby bringing efficiency through time management. It has also brought about quick retrieval of records as well as ensuring that records are only available to authorized users.

## **Conclusion**

Information management has gone through series of advancements for a long time now as a result of the adoption of ICT. This has improved the way tasks are performed. The adoption of technology has changed the management of information in tertiary institutions as the institution in Edo State now uses ICT in managing their information in order to cope with the increase in the volume of information they generate. Technology has helped to manage the creation and the processing of information in tertiary institutions in Edo State. Offices of the tertiary institutions in Edo State are well equipped with ICT devices that facilitate productivity, accuracy and efficiency of work. The availability of these facilities in these institutions and the ability of office managers to use the facilities had a great impact on their performance. The result of such a performance is quick retrieval of information as well as enhancing the security of such information. The use of ICT in managing information in tertiary institutions has transformed the office managers' office from paper more to paper less thereby enhancing economy of space as storage of information is being done in the computer system without making use of papers.

## Recommendations

Based on the findings and conclusion of this work, the following recommendations were made:

- i. Management of tertiary institutions in Edo State should be made to understand that the knowledge and application of digital methods in managing information is very vital for the security of such records as it ensures quick and easy retrieval as well as safety of information.
- ii. Since the world of work is changing so rapidly, there is a constant need for retraining the administrative staff in the use of ICT gadgets for the security of records and total management of information.
- iii. The management of the institutions should ensure that the administrative staff should constantly update their skills and knowledge of these new technologies in order to cope with the challenges associated with their use.
- iv. Management of institutions should provide facilities for ICT security programmes to be fully incorporated and implemented in tertiary institutions so that administrative staff can be trained and equipped to face the challenges of records management in modern business offices.
- v. Information and Communication Technology needs electricity to be effective. It is a known fact that power supply is not stable in Nigeria. The government should try to see that the power supply is stable.

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## Perceived Ease of Use and Demographic Variables as Determinants of Undergraduates' Use of Electronic Resources in Federal University Libraries in North-Central, Nigeria

<sup>1</sup>UMAR, Abubakar Izuafah, <sup>2</sup>OYEDUM, G.U. & <sup>3</sup>ABDULDAYAN, F.J.

Department of Library and Information Science,  
Federal University of Technology, Minna, Niger State

<sup>1</sup>umarizuafah@gmail.com; 08075580453; <sup>2</sup>georginaoyedum@futminna.edu.ng; 08105169141;  
<sup>3</sup>fj.dayan@futminna.edu.ng; 07068155501

### Abstract

*This study investigated perceived ease of use and demographic variables as determinants of undergraduates' use of electronic resources in federal university libraries in North-central, Nigeria. Correlational survey design was adopted for the study and the multistage sampling technique was employed. Three faculties and two departments each from the faculties were selected using the random sampling technique by balloting. Taro Yamane's formula for sample size was used to get the sample size of 399 students from the 185,622 population of the universities. Self-structured questionnaire was used as data collection instrument and 399 copies of the structured questionnaire were distributed based on the population proportion of individual universities. Three hundred and thirty-two (332) 83% copies of the self-structured questionnaire were filled, returned and used for the analysis. Descriptive statistical tool involving frequency counts and percentages, mean and standard deviation were used to analyse the data. The tests of the null hypotheses were performed at 0.05 level of significance using Pearson's Product-Moment Correlation Coefficient (PPMC). Analysis of the study revealed that the relationship between the undergraduate students' perceived ease of use (PEOU) and the use of electronic resources is adequate (PEOU =  $x-12.75$ , SD-1.34). Other findings revealed that respondents' age, gender, level of study and course of study did have positive influence on the use of electronic resources. Undergraduate students indicated that limited access to computer terminals, lack of the required skills to effectively access e-resources, network problem, lack of training on e-resources usage, frequent power failure among others are seen as challenges that impede the use of electronic resources. It was recommended among others that library management in universities in North-central, Nigeria should provide modern ICT facilities and gadgets through which students can access and use electronic resources and create awareness of the available electronic resources in their libraries in order to continue enhancing the significant relationship between the students PEOU and use of ERs.*

**Keywords:** Demographic variables, Electronic resources (ER), Perceived ease of use (PEOU),

### Introduction

Today, the way information is produced, managed, and communicated has undergone significant change as a result of the development and usage of electronic resources (ERs) in universities. With reference to these developments, libraries should include both print and electronic collections in order to successfully serve students, who frequently make up a larger portion of the library community. This library has expanded over time and with the advent of information and

communication technology (ICT), many changes and improvements on the way the university libraries store their resources have occurred. ICT also makes space for the storage of information in a variety of formats, including but not limited to electronic format, which is referred to as electronic resources (ER). These resources are available in a variety of formats for easy accessibility.

All information-carrying media that need electricity or electromagnetic equipment to read the information content are referred to as electronic resources. Thus, university libraries now offer better information services to people using electronic resources (ERs). Electronic resources give users access to current information as well as information that they may not be able to get due to financial constraints or geographical limitations. Electronic Resources (ERs) have a great impact on libraries and have changed the functioning of libraries, especially in higher education institutions across the world. The use of electronic resources by students whether undergraduates or post graduates, avails them with the opportunities to numerous advantages such as more convenient to use as there is no geographical barrier, current information as they provide up-to-date resources to users for research and other academic purposes. They also provide access to easy downloads through computers, mobile phones and other mobile devices. In recent time, the use of electronic resources is on the increase and all these advantages necessitated academic libraries all over the world to incorporate electronic resources into their libraries. However, despite how significant and promising the ERs are, undergraduate students in Nigeria are not fully utilising them according to reports of several studies. Although some factors have been identified as influencing the use of electronic resources. Factors such as age, gender, level of study, socioeconomic background and knowledge, retrieval skills are only a few examples of the demographic aspects that may have an impact on undergraduates' use of electronic resources.

Students' perception of the ER used and how simple it is for them to obtain, access and use them is a factor that might likely affect or enhance their use of electronic resources. The degree to which a user of a system thinks utilising that system would be effortless or require little effort is known as perceived ease of use (PEOU) which is also an aspect that has been found to have an impact on the use of electronic resources. Perceived ease of use is defined as the degree to which an individual believes that using a particular technology, in this case electronic resources would be free from effort. Users will like using an electronic resource more if it is simple to use. The easier it is to use an electronic database; the more enjoyment users will derive from using it.

Apart from PEOU, another variable that can influence users to choose and use electronic resources in the library is demographic variables. Demographic information is frequently a valuable indicator of the elements that influence students' use of electronic or technology resources. Age, gender, level of study, course of study and other factors are examples of demographic variables. Therefore, it is necessary to investigate how demographic factors such as age, gender, level of education, and course of study affect students' use of electronic resources in North-central Nigeria. Hayes (2021) argued that demographic traits define the human population. It may also be thought of as a population's statistical socioeconomic traits or factors. Numerous studies have been carried out to investigate how age and gender determine ICT literacy skills of students.

Demographic variables such as age, gender, course of study and level of study might have impact on the way and manners undergraduate students interact and use electronic resources. The age of a user helps in determining how often he uses electronic resources. The younger users tend to be more comfortable using electronic resources than their older counterparts. To demonstrate how gender, impact the use of electronic resources, male researchers tend to use Internet and other electronic resources more often and this may be as a result of cultural factor prevalent in a typical African society as the male has more time to spend on research at a given time due to the female engagement in chores and other household duties compared to their male counterparts. From the aforementioned, it is clear that undergraduate students' use of electronic resources is influenced by several demographic characteristics and other variables such as perceived ease of use (PEOU) to mention but a few. Therefore, based on the aforementioned, it can be noted that for electronic resources to be effectively and efficiently used by undergraduate students there is need to study the relationship between electronic resources use and these factors discussed above as they help in assisting these students to make innovative use of these electronic resources for their activities. It is on these variables that the study seeks to investigate.

### **Statement of the Research Problem**

Electronic resources (ERs) are collections of information in an electronic or digital format that can be accessed using electronic devices like a phone, computer and other fixed media. With the introduction of ERs, accessibility and retrieval in most libraries especially in the university libraries have become easy. Electronic resources give users access to current information as well as information that they may not be able to get due to financial constraints or geographical limitations. These electronic resources are essential research tools that complement print-based resources in academic libraries.

However, studies on the use of electronic resources found that, as significant and promising as the ERs are, undergraduate students in Nigerian universities are yet to fully utilise them to their own advantage. This corroborates the findings of Raphael *et al*, (2020) which stated that despite the benefits of ERs, literature have revealed that the use of ERs to complement academic work is still below expectations among undergraduates in Nigeria. This has greatly affected their creativity and innovation in their various fields of study. It is on this basis, the researcher thought it is important to conduct this study to investigate perceived ease of use and demographic variables as determinants of undergraduates' use of electronic resources in federal university libraries in North-central Nigeria.

### **Aim and Objectives of the Study**

The aim of the study is to investigate the relationship of perceived ease of use and demographic variables on undergraduates' use of electronic resources at federal university libraries in North-central Nigeria. The specific objectives are to:

1. identify the types of electronic resources available in the libraries of federal universities in North-central, Nigeria;
2. find out the level of undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria
3. determine the relationship between perceived ease of use and undergraduate students' use of electronic resources in federal university libraries in North-central Nigeria;
4. ascertain the relationship between demographic variables (age, gender, level of study and course of study) on undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria.
5. find out the challenges that impede undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria.

### **Research Questions**

To guide this study, the following questions were asked.

1. What types of electronic resources are available in the libraries of federal universities in North-central Nigeria?
2. What is the level of undergraduate students' use of electronic resources in federal university libraries in North-central Nigeria?
3. What are the challenges that impede undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria?

## Hypotheses

To achieve the investigation, the following null hypotheses were developed and were evaluated at the ( $P < 0.05$ ) level of significance:

**H<sub>01</sub>** There is no significant relationship between perceived ease of use and utilization of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria.

**H<sub>02</sub>** There is no significant relationship between demographic variables (age, gender, level of study and course of study) on undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria.

## Literature Review

The use of electronic resources has helped to change how people can access information and how it is retrieved. In the past, users primarily received information from librarians. Today, the way information is produced, managed, and communicated has undergone significant changes as a result of the development and usage of electronic resources in universities. The development in technology has resulted in the emergence of electronic resources such as electronic journals, online database, CD-ROM database, Web OPAC, Internet search engines, electronic books, electronic newspapers, electronic theses and dissertations, electronic patents, electronic standards and indexing and abstracting databases.

Electronic resources have been defined by various scholars. According to Mawere and Sai (2018), they referred to electronic resources as collections of information in an electronic or digital format that can be accessed using electronic devices like a phone, computer and other fixed media. They are also published in an electronic version, such as Encyclopaedia, pamphlets, e-books, e-journals, databases and so on. Anyim (2018) defined electronic information resources as information resources in which contents could be accessed through the use of Internet, CD-ROMs, electronic books (e-books), electronic journals (e-journal), electronic indexes, digital reference materials, online databases and other e-collections. The various types and forms of e-resources in academic libraries are: e-databases, e-journals, e-data archives, e-manuscripts, e-maps, e-books, e-magazines, e-thesis, www, e-newspapers, e-research reports, and e-bibliographic databases (Ankrah & Atuase, 2018). They offer both undergraduate and postgraduate students the chance to access relevant and current information from different areas of specialization. Electronic resources provide access to authoritative, reliable, accurate and timely access to information (Anyim, 2018).

In recent times, electronic resources have been identified as the major sources for information dissemination in the universities, especially for researchers.

Students' perceptions of how easy it is to access and use the ERs are very important because this historical fit may be impacted if users find it difficult to use, even though availability of the ERs does not guarantee use. According to Olatoye *et al.*, (2020) perception is an active process, as one selectively perceives, organizes and interprets what one experiences. Interpretations are based on the perceiver's past experiences, assumptions about human behaviour, knowledge of the other circumstances, present moods/wants/desires and expectations. Eiriemiokhale, and Idowu (2021) cited Kolawole and Osundina (2015) who affirmed that Perceived Ease of Use (PEOU) has a significant effect on perceived usefulness of electronic databases. The easier it is to use an electronic resource; the more enjoyment users will derive from using it. The easier it is for users to make use of a system the more they tend to use the system. This is supported by the study carried Ebijuwa (2018) which examined availability and use of audio-visual and e-resources by distance learning students in Nigerian Universities: a case study of National Open University of Nigeria (NOUN), Ibadan Study Centre. The study revealed that "perceived ease of use had a positive relationship with the use of audio-visual and e-resources, while there was a negative relationship between perceived usefulness and use of audio-visual and electronic resources".

Demographic variables are variables such as age, gender, course and level of study as applied and used in this study. Studies have revealed a variety of relationships between gender and the use of electronic library resources, but it is unclear whether gender plays a role in determining the use of electronic information resources. In some studies, the impact of a student's course of study on how they use electronic resources has been examined. Disciplines have also been shown to have an impact on academics' relationships to knowledge and their use of electronic resources. This is supported by the studies carried out on the influence of academic discipline on electronic library resources use by undergraduates (Kemp and Jones, 2007; Olle and Boraggo, 2010; Wu and Chen, 2012 and Aquil and Sulaiman, 2017).

According to studies, users of electronic resources have faced a variety of difficulties in various colleges and universities. Low internet connectivity and frequent power outages are reportedly the two biggest problems with electronic resources in African colleges and universities (Natarajan, 2017). Information overload may result from the wealth of electronic resources which is a challenge. It gets harder to sort through the massive sea of information and differentiate between trustworthy and untrustworthy sources when we have access to so much data at our fingertips,



## Methodology

The correlational survey design was adopted for the study. The population of the study comprised of 185,622 undergraduate students as at September, 2022. The study used multi-stage sampling to select the conventional universities in the North-central, Nigeria and three faculties from the universities to constitute the study sample. Three faculties and two departments each from the faculties were selected using the random sampling technique by balloting. Taro Yamane's formula for sample size was used to get the sample size of 399 students from the 185,622 population of the universities and 399 copies of self-structured questionnaire were distributed based on the population proportion of individual university to respondents among the universities. Self-structured questionnaire was used for data collection. Descriptive and inferential statistics such as frequency, percentages mean and standard deviation were used to analyse the data. The test of the hypothesis was performed at 0.05 level of significance.

**Table 1. Population, Sample Size and Sampling Technique**

S/N	Universities	Number of Students	Proportion	Sample Size of each university
1	University of Abuja, Abuja	55,364	30	120
2	University of Ilorin, Kwara State	55,242	30	120
3	Federal University, Lokoja, Kogi State	10,838	6	24
4	Federal University, Lafia, Nasarawa State	11,420	6	24
5	University of Jos, Plateau State	52,758	28	111
	<b>Total</b>	<b>185,622</b>	<b>100</b>	<b>399</b>

Source: National Universities Commission (NUC) and Universities' websites, 2021/2022 Academic Session

## Results and Discussion

**Table 2. Response Rate**

S/N	Name of Federal University	Copies of Administered Questionnaire	Copies of Returned Questionnaire	Percentage(s) Returned (%)
1	University of Abuja, Abuja	120	105	88
2	University of Ilorin, Ilorin	120	97	81
3	Federal University, Lokoja	24	21	88
4	Federal University, Lafia	24	19	79
5	University of Jos, Jos	111	90	81
	<b>Total</b>	<b>399</b>	<b>332</b>	<b>83</b>

Table 2 reveals that 120 copies of questionnaire were administered to undergraduate students in University of Abuja, Abuja, 105 copies representing [88%] were returned, 120 copies of questionnaire were administered to undergraduate students in University of Ilorin, Ilorin, 97

copies representing [81%] were returned, 24 copies of questionnaire were administered to undergraduate students in Federal University Lokoja, 21 copies representing [88%] were returned, 24 copies of questionnaire were administered to undergraduate students in Federal University, Lafia, 19 copies representing [79%] were returned and 111 copies of questionnaire were administered to undergraduate students in Federal University of Jos, 90 copies of questionnaire representing [81%] were returned.

**Table 3** presents results on the demographic information of the undergraduates in federal universities from North-central, Nigeria who participated in the study.

**Table 3. Demographic Data of the Respondents**

Name of Institutions	Universities												Total
	Fed. Uni., Lafia		Fed. Uni., Lokoja			Uni. Abuja		Uni. of Ilorin.		Uni. of Jos.			332 (100%)
	19(6%)		21(6%)			105(32%)		97(29%)		90(27%)			
Course of study	Biology 30 (9%)	Econs. 24 (7%)	Islamic Std 21 (6%)	Int. Std 19 (6%)	Chem. 36 (11%)	Socio 43 (13%)	Zoo. 41 (12%)	Engl. Lang. 35 (10%)	Histor y 13 (4%)	Phy. 15 (5%)	Stat. 29 (9%)	Po. Sci 26 (8%)	332 (100%)
Level of study	100 Level 86 (26%)		200 Level 79 (24%)			300 Level 101 (30%)				400 Level 66 (20%)			332 (100%)
Faculties			Art and Humanities 63 (19%)			Science 122 (37%)				Social Sciences 147 (44%)			332 (100%)
Sex			Male 249 (75%)					Female 83 (25%)					332 (100%)
Age	16-20 years 86 (26%)		21-24 years 79 (24%)			25-29 years 101 (30%)				30 and above 66 (20%)			332 (100%)

The results from Table 3 shows that 105(32%) of the respondents were from University of Abuja, 97 (29%) of the respondents were from University of Ilorin, 90(27%) of the respondents from University of Jos, 21(6%) of the respondents were from Federal University, Lokoja, 19(6%) of the respondents were from Federal University, Lafia. This shows that most of the respondents are undergraduates from University of Abuja.

Similarly, 43(13%) of the undergraduate students study Sociology, 41(12%) of the undergraduate students study Zoology 36(11%) of the undergraduate students study Chemistry, 35(10%) of the undergraduate students study English, 30(9%) of the undergraduate students study Biology, 29(9%) of the undergraduate students study Statistics, 26(8%) of the undergraduate students study Political Science, 24(7%) of the undergraduate students study Economics, 21(6%) of the undergraduate students study Islamic Studies, 19(6%) of the undergraduate students study

International Studies, 15(5%) of the undergraduate students study Physics, and 13(4%) of the undergraduate students study History. Similarly, 63(19%) of the respondents were in the Faculty of Arts and Humanities, 122(37%) of the respondents were in the Faculty of Science, while 63(19%) of the respondents were in the Faculty of Arts and Humanities. Furthermore, 249(75%) of the respondents are male, while 83(25%) of the respondents are female. This shows that most of the respondents were males.

### Research Question 1: What types of electronic resources are available in the libraries of federal universities in North-central Nigeria?

Table 4 is an observation checklist of the types of electronic resources available in the libraries of federal universities.

**Table 4. Types of Electronic Resources in Conventional Federal Universities in North-central, Nigeria**

Electronic Resources	University of Abuja		University of Ilorin		Federal University, Lokoja		Federal University, Lafia		University of Jos	
	AV	NA	AV	NA	AV	NA	AV	NA	AV	NA
Electronic journals	√		√		√		√		√	
Online database	√		√		√		√		√	
CD-ROM database	√		√		√		√		√	
Web OPAC	√		√		√		√		√	
Internet	√		√		√		√		√	
Electronic books	√		√		√		√		√	
Electronic newspaper		X	√			X		X	√	
Electronic theses and dissertations	√		√			X		X	√	
Electronic patents		X		X		X		X	√	
Electronic Standards		X	√			X		X	√	
E-Index and Abstract database		X		X		X		X		X

Key (√) = Available, (X) = Not Available

The result in Table 4 shows the electronic resources available and those that are not available to undergraduate students in the federal university libraries studied. The findings of the study from research question one revealed that electronic resources such as electronic journals, online databases, CD-ROM databases, Web OPAC, Internet and electronic books are available in all the libraries. This is because libraries of today perform better in terms of information services where there are print and non-print resources. This is in line with the findings of Anyim (2018) which indicated that electronic information resources are those in which contents could be accessed through the use of Internet, CD-ROMs, electronic books (e-books), electronic journals (e-journals), electronic indexes, digital reference materials, online databases and other e-collections.

## Research Question 2: What is the level of undergraduate students' use of electronic resources in federal university libraries in North-central Nigeria?

Table 5 shows the level of undergraduate students' use of electronic resources in the studied areas.

**Table 5: Level of Undergraduate Students' Use of Electronic Resources**

S/N	Statements	VHL 4	HL 3	ML 2	LL 1	n	FX	$\bar{X}$	STD	Decision
1.	I use the e-resources in my library for writing project	154	128	28	22	332	1078	3.25	0.74	High
2	I use the e-resources in my library for studying	102	112	64	54	332	926	2.79	0.29	High
3.	I use the e-resources in my library for course work	45	56	110	12	332	689	2.08	0.42	Low
4.	I use the e-resources in my library for reference checking	78	106	87	61	332	865	2.60	0.10	High
5.	I use the e-resources in my library for learning new knowledge	105	110	76	41	332	943	2.85	0.35	High
6.	I use the e-resources in my library for cooperating and collaborating with my colleagues	89	107	80	56	332	893	2.69	0.19	High
7.	I use the e-resources in my library for finding current information	150	122	36	24	332	1062	3.20	0.70	High
8.	I use the e-resources in my library for complementing classroom learning	107	100	57	68	332	910	2.74	0.24	High
9.	I use the e-resources in my library for updating my knowledge	94	98	84	56	332	894	2.69	0.19	High
10.	I use the e-resources in my library for literature search	89	78	96	69	332	851	2.56	0.06	High
11.	I use the e-resources in my library for writing assignments	130	112	45	45	332	991	2.98	0.48	High

**Key: Very High Level (VHL), High Level (HL), Moderate Level (ML), Low Level (LL)**

Table 5 shows that eleven items were listed for the respondents to indicate the level of their use of electronic resources. Ten items produced high mean scores above the benchmark of 2.5. These items include item 1: I use the e-resources in my library for writing project ( $\bar{x}$ =3.25; SD=0.74), item 7: I use the e-resources in my library for writing project ( $\bar{x}$ =3.20; SD=0.70), item 11: I use the e-resources in my library for writing assignments ( $\bar{x}$ =2.98; SD=0.48), item 5: I use the e-resources in my library for learning new knowledge ( $\bar{x}$ =2.85; SD=0.35), item 2: I use the e-resources in my library for studying ( $\bar{x}$ =2.79; SD=0.29), item 8: I use the e-resources in my library for complementing classroom learning ( $\bar{x}$ =2.74; SD=0.24), item 6: I use the e-resources in my library for cooperating and collaborating with my colleagues ( $\bar{x}$ =2.69; SD=0.19), item 9: I use the e-resources in my library for updating my knowledge ( $\bar{x}$ =2.69; SD=0.19), item 4: I use the e-resources in my library for reference checking ( $\bar{x}$ =2.60; SD=0.10) and item 10: I use the e-resources in my library for literature search ( $\bar{x}$ =2.56; SD=0.06). On the other hand, one item

produced low mean score below the average benchmark of 2.50 which is item 3: I use the e-resources in my library for course work ( $\bar{x}=2.08$ ;  $SD=0.42$ ). This shows low mean score indicating that students never used electronic resources for this purpose. The findings of the study revealed that undergraduate students' level of use of electronic resources is high. This is why the respondents indicated they use e-resources for writing project, studying, for reference checking, learning new knowledge, cooperating and collaborating with colleagues, finding current information, complementing classroom learning, updating knowledge, literature search and for writing assignments. The findings agree with Ebijuwa (2019) who revealed that in pursuit of academic activities the undergraduate students use electronic resources to update knowledge in their subject areas of interest, class assignment, scholarship opportunities, research/writing project, retrieve current literature for studies to follow blog discussion on subject areas of interest and use Internet in accessing the library chat with friends.

#### Research Question 4: What are the challenges that impede undergraduate students' use of electronic resources in federal university libraries in North-central, Nigeria?

Table 6 shows the challenges that impede undergraduate students' use of electronic resources in the studied areas.

**Table 6: Challenges that Impede Undergraduate Students' Use of Electronic Resources**

S/N	Statements	SA 4	A 3	D 2	SD 1	n	FX	$\bar{X}$	STD	Decision
1.	Limited access to computer terminals	89	78	96	69	332	851	2.56	0.06	Agreed
2	Uncooperative staff to facilitate easy access	13	20	125	174	332	536	1.61	0.89	Disagreed
3.	Lack of the required skills to effectively access e-resources	115	94	67	56	332	932	2.81	0.31	Agreed
4.	Lack of awareness about e-resources	18	28	130	156	332	572	1.72	0.78	Disagreed
5.	Unfriendly user-interface	112	100	76	44	332	944	2.84	0.34	Agreed
6.	Inadequate e-resources	103	112	64	53	332	929	2.80	0.30	Agreed
7.	Network problem	108	134	34	56	332	958	2.89	0.39	Agreed
8.	Lack of training on e-resources usage	115	94	67	56	332	932	2.81	0.31	Agreed
9.	Frequent downtime of server	106	102	67	57	332	921	2.77	0.27	Agreed
10.	Lack of support from IT staff in my institution's library	23	19	134	156	332	573	1.73	0.77	Disagreed
11	E-resources not available in library	45	56	110	121	332	689	2.08	0.42	Disagreed
12	No assistance provided by the information professionals	20	28	135	149	332	583	1.76	0.74	Disagreed
13	Lack of required search skills	94	98	84	56	332	894	2.69	0.19	Agreed
14	Not many e-resources available in my subject area	103	123	42	64	332	929	2.80	0.30	Agreed
15	Frequent power failure	127	136	40	29	332	1025	3.09	0.59	Agreed

**Key:** SA = Strongly Agreed, A = Agreed, D =Disagreed, SD = Strongly Disagreed, n = Number of Retrieved Copies of Questionnaire,  $\bar{X}$ =Mean and (Benchmark mean = 2.50).

Table 6 shows that fifteen items were listed for the undergraduate students to indicate the challenges that impede their use of electronic resources. Out of the fifteen items listed, ten items produced high mean scores above the benchmark of 2.5. The study revealed that respondents agreed with all the challenges that impede their use of electronic resources with the exception of

items 2, 4, 10, 11 and 12 as presented in Table 7. These indicate that the use of electronic resources among undergraduate students is negatively affected. This is in line with the findings of Natarajan (2017) that low Internet connectivity and frequent power outages are reportedly the two biggest problems with electronic resources in African colleges and universities. This further corroborates the studies of Apkorhormor and Akpojotor (2016) on the challenges of using electronic resources, the findings revealed that poor Internet connectivity, epileptic power supply, information overload, high cost of access, download delay and difficulty in accessing some websites, many irrelevant search results, inability to identify the best resources, and too much time to identify resources are some of the problems militating against the use of electronic information resources.

### Testing of Hypotheses

**H<sub>01</sub>** There is no significant relationship between perceived ease of use and utilisation of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria.

Table 7 shows the relationship between perceived ease of use and utilisation of electronic resources by undergraduate students.

Table 7: Relationship between Perceived Ease of Use and Utilisation of Electronic Resources

Variable	n	df	Mean	SD	R	P
Perceived Ease of Use	332	330	12.75	1.34	0.165	0.05
Utilisation of Electronic Resources			14.18	2.61		

Table 7 shows that the Pearson Correlation coefficient = 0.165 is greater than P value of 0.05.

This shows that there is a strong relationship between perceived ease of use and utilisation of electronic resources by undergraduate students. Therefore, the hypothesis which states that there is no significant relationship between perceived ease of use and utilisation of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria is rejected. The test of null hypothesis on the relationship between perceived ease of use and utilisation of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria has shown that there is significant relationship between them. This shows that as the PEOU improves, utilisation of e-resources improves and vice-versa. This study is in support of the finding of Mollel and Mwantimwa (2019) who reported that perceived usefulness and perceived ease of use are important predictors of actual use of technology and systems through behavioural intention to use. This shows that the higher the level of perceived ease of use on electronic resources by the undergraduate students, the higher the likelihood of adoption and use of the electronic resources by them.



**H<sub>02</sub>** There is no significant relationship between demographic variables and utilisation of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria.

Table 8: Relationship between Demographic Variables and Utilisation of Electronic Resources by Undergraduate Students

Variable	n	df	Mean	SD	R	P
Demographic Variables	332	330	13.52	2.35	0.244	0.05
Utilisation Of Electronic Resources			14.50	1.65		

Table 8 showed that the P value = 0.244 is greater than P value of 0.05. This reveals that there is a relationship between demographic variables and utilisation of electronic resources by undergraduate students. Therefore, the hypothesis which shows that there is no significant relationship between demographic variables and utilisation of electronic resources by undergraduate students in federal university libraries in North-central, Nigeria is rejected. This shows that demographic variables such as age, gender, course and level of study improves the utilisation of e-resources among undergraduate students. This study is in support of the finding of Olatoye *et al.* (2019) which stated that recent research on the differences between male and female researchers revealed that male researchers used Internet resources more frequently, performed more successfully in electronic-learning tasks, and encountered different challenges in their use of ICT than their female counterparts. It was revealed that the students' use of electronic information resources varied depending on the job at hand. It also agrees with the study of Ruzegwa and Msonde (2021) which showed that age influenced the use of e-resources by undergraduates. On the influence of level of study on the use of e-resources, this study is also similar to that of Ruzegwa and Msonde (2021) who generally found educational level to be a predictor of e-resources use among students.

## Conclusion

The study revealed that the availability of electronic resources has significant influence on their access and use. The relationship between perceived ease of use and use of electronic resources by undergraduate students is very strong as it enhances the use of electronic resources. The more the students perceived the electronic resources as easy to use, the more they tend to use the electronic resources in the libraries. Some of the challenges that impede undergraduates' use of electronic resources include limited access to computer terminals, lack of the required skills to effectively access e-resources, unfriendly user-interface, inadequate e-resources, network problem, and lack of training on e-resources usage, frequent downtime of server and lack of required search skills.

With all these impediments, it would be difficult for undergraduate students to access and use electronic resources in the federal university libraries.

## Recommendations

The management of federal university libraries in North-central, Nigeria should strive to provide adequate electronic resources not available in some of the federal university libraries. They should also ensure that ICT facilities and gadgets through which students can access and use electronic resources are user friendly to continue to improve the perceived ease of use of the students. They should also ensure the undergraduate students are given access to use electronic resources whenever the need arises regardless of their age, gender or other demographic affiliations as used in this study. Lastly, they should ensure the provision of adequate funds necessary for the acquisition of adequate electronic resources, alternative source(s) of power supply and also provide training sessions for library staff with incentives so as to motivate the students to make adequate use of the electronic resources in their libraries to maximise the cost-benefit of the funds expended in purchasing and managing the resources.

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## **Impact of Information Management on Office Managers' Job performance in a Digitalised Office (A Study of University of Ibadan, Ibadan, Oyo State)**

<sup>1</sup>WAHEED, B.A., <sup>2</sup>AJAYI, Josephine M., <sup>3</sup>OYEKOLA, I.S., <sup>4</sup>ADEYINKA, Modupe G.,  
<sup>5</sup>AGBEJULE, Omowunmi, <sup>6</sup>ADEWALE, Mobolaji M. & <sup>7</sup>WINDAPO, Temilade O.

<sup>1</sup>waheedbasitadebayo@gmail.com, 08134128471; <sup>2</sup>iyaijebu2013@gmail.com, 08035416615;

<sup>3</sup>oyekolakanmi@gmail.com, 08101970233; <sup>4</sup>adeyinkaola2001@gmail.com, 07037470810;

<sup>5</sup>agbejuleomowunmi@gmail.com, 08035152162; <sup>6</sup>adewalemobolaji380@gmail.com,  
07061111187; <sup>7</sup>temiladeoluwayseyi34@gmail.com, 08085057577

<sup>1</sup>University of Ibadan, Ibadan, Oyo State; <sup>2</sup>National Orthopedic Hospital, Igbobi, Lagos; <sup>3</sup>The Polytechnic Ibadan, Ibadan, Oyo State; <sup>4</sup>Federal Medical Centre, Bida, Niger State;

<sup>5</sup>National Industrial Court of Nigeria; <sup>6</sup>Nigeria Police Force; <sup>7</sup>Bowen University, Iwo, Osun

### **Abstract**

*In today's dynamic environment, information plays a pivotal role in every facet of life, serving as the lifeblood for individuals and organisations. Recognized as a crucial tool for achieving objectives, quality information is defined as processed data capable of answering queries and facilitating decision-making. Effective information management practices are known to enhance decision-making, increase efficiency, and provide organisations with a competitive edge. However, the evolving nature of the role of secretaries, particularly in technologically advanced settings like the University of Ibadan, poses challenges as their responsibilities extend beyond traditional clerical tasks. This study addresses the dearth of research on this paradigm shift and the need for organisations, such as the University of Ibadan, to comprehend the evolving role of secretaries in information management. The primary objective is to establish a relationship between Information Management Practices and Office Managers' Job Performance at the University of Ibadan. The study utilizes the Information Processing Theory, emphasizing how office managers process and use information in a digitalized setting. A survey research design is employed, with a sample of 80 Office Managers selected using a simple random sampling technique. Data is collected through a structured questionnaire, and statistical analyses, including descriptive statistics, Pearson correlation, and linear regression, are employed. Findings revealed that Information Management Practices in the University of Ibadan are moderately adopted (mean = 3.84), while Office Managers demonstrate a relatively high level of Information Management Proficiency (mean = 3.91). The relationship between Information Management Practices and Job Performance is significant (p-value = 0.039), supporting the rejection of the null hypothesis. Conclusion was drawn that there is a positive relationship between Information Management Practices and Office and recommendations were made.*

**Keywords:** Digitalised, Job Performance, Office Information Management, Office Management

### **Introduction**

Information plays a key role in every aspect of life. People need information to work properly in their respective domains. Information has also been widely recognized as an important tool used in the realization of objectives or goals set by individuals, thus it remains the lifeblood of any individual or organisation. Information is defined as processed data capable of answering users

query and help in decision making. Good and quality information can improve decision making, enhance efficiency and allow organisations to gain competitive advantages. The nomenclature of Secretaries is evolving rapidly and expanding extensively as a result of geometricity in technological development in the world. Thereby, making the nature of their job expanded beyond mere typing and doing some menial clerical works. The secretaries' job is more robust now and is more of information management. There is sparse research on this new development and some employers and organisations e.g. University of Ibadan have not understood this new development in the changing role of secretaries.

### **Objectives of the Study**

The study main objective is to establish relationship between Information Management Practices and Office Managers Job Performance in University of Ibadan. Other sub objectives are to:

1. identify the information Management Practices adopted in the University of Ibadan
2. examine the level of Information Management Proficiency of Office Managers in University of Ibadan

### **Research Questions**

1. What are the Information Management Practices adopted in University of Ibadan?
2. What is the level of Information Management Proficiency of Office Managers in University of Ibadan?
3. What is the relationship between Information Management Practices and Office Managers' Job Performance in University of Ibadan?

### **Hypothesis**

**H<sub>0</sub>:** There is no relationship between Information Management Practices and Office Managers' Job Performance in University of Ibadan

### **Review of Related Literature**

Understanding the role of an office manager is crucial to appreciating the significance of their job performance. The definition of an office manager varies across organisations, as reflected in their job descriptions. Some organisations perceive office managers as primarily fulfilling administrative roles related to office resources. In contrast, others view them as information and office custodians, resembling secretaries, or even as high-level managers overseeing the coordination of all organisational units (Boma-Siaminabo, 2022). Different perspectives on the role of an office manager create confusion, requiring a contextual definition within the operational

context of each organisation (Seet, 2019). Seet (2019) further outlines the responsibilities of office managers as high-level employees providing support to organisational operations. This involves tasks such as generating meeting notes, handling calls, addressing inquiries related to front-end business operations, managing external interactions, handling invoices, making rent payments, organizing administrative structures, overseeing office access, and supervising other employees.

Job performance is an important factor in determining the success and outcomes of a business. Knowledge, skills, motivation, ability, work environment, and numerous metrics used to evaluate job performance, such as quantity, quality, punctuality, and creativity, all play a role. (Osibanjo et al., 2014 as cited by Ajibola R. E. (2022)). Also, job performance, according to Udomisor & Haruna (2010), refers to an employee's rate of accomplishment compared to the employer's established norm and the employee's contribution to the business. Therefore, we can say job performance refers to staff's rate of accomplishment in comparison to the norm established by the employer, as well as the employee's contribution to the business. The success of an organisation hinges on high levels of individual performance, as job performance represents the expected value derived from employees' actions over a specific period (Bullock, 2013). In evaluating job performance, various factors come into play, including knowledge, skills, motivation, ability, and the work environment (Osibanjo et al., 2014 as cited by Ajibola R. E (2022)).

Information management (IM) involves collecting and overseeing data from multiple sources and ensuring its distribution to authorized users (Robertson, 2005). In this context, 'management' pertains to organizing and controlling information's structure, processes, and delivery. Scholars like Henczel (2000) and Ravi (2011) regard information management as a systematic, imaginative, and responsible approach to handling data. It aims to strategically contribute to organisational goals while facilitating efficient access and utilization for individuals and groups. Information management encompasses a continuous cycle of activities, including identifying informational needs, acquiring and generating information, analyzing and interpreting it, organizing and storing data, enabling access and dissemination, and fostering information usage (Henczel, 2000; Robertson, 2005; Ravi, 2011). Identification of informational needs involves recognizing information's pivotal role in achieving organisational objectives and planning accordingly.

Maceviciute and Wilson (2002) broaden this concept, encompassing the development and implementation of information policy and strategy, data creation, management, processing, storage, delivery, and usage. Effective information management combines technological



innovations and intelligent processes to deliver cost-effective information compliance and data protection (Ravi, 2011).

Laudon and Laudon (2010) as cited by Emenike O. A. (2022) information is a data that have been processed into meaningful and useful form. Information is one of the most important assets organisations because it is the basis of all decisions. Pijpers (2009) said information exists only through human perception and assessment thereby making it intangible and abstract. It is the resources of organisation which is self -multiplicative and does not lose value upon exchange.

Dorr et al. (2013) as cited by Emenike O. A. (2022) argued that information is one of the world's most important resources since it is needed to solve problems and making decisions affecting both the present and the future.

### **Information Management Processes**

Waheed et al. (2023) submitted that organisations generate various types of data and information from their daily activities. Most of them are preserved and stored in the record unit or information centres of the organisations. Nonaka, H. and Takeuchi, H. (1995) as cited by Waheed et al. (2023) opined that it is a social process that involves interaction and sharing experiences. Information Generation is the act of producing information product, where the producer may be an author or originator. Information can be generated using a piece of equipment such as a sensing device, computers, satellite or laboratory instrument. Information security protects data from unauthorized access, theft, or breaches. These techniques include access control, encryption, and security policies. Information security is critical to preserving the confidentiality, integrity, and availability of data (Waheed et al., 2023). Waheed et al. (2023) Effective information retrieval ensures that users can find the information they need quickly and accurately. Techniques include the use of metadata, search engines, and content management systems to locate and retrieve information efficiently.

### **Theoretical Review**

#### **Information Processing Theory**

Information processing theory is a cognitive psychology framework that seeks to understand how individuals acquire, process, store, and retrieve information to make decisions and solve problems. This theory posits that the human mind functions like a computer, with the processing of information involving a series of stages such as encoding, storage, and retrieval. In the context of organisational settings, including digitalized offices, information processing theory provides

insights into how individuals, such as office managers, manage and use information to perform their tasks effectively.

## Methodology

The researchers used survey research design for this study. The population of the study comprises of all office managers in University of Ibadan. Eighty (80) office managers were selected based on Slovin method of establishing sample size, a total population of 100 was used to generate the sample size, which states that when a population is 100, the required sample size is 80. For this study, it was decided to employ simple random sampling technique to ensure that all respondents have potential of being selected. To collect data from respondents, a structured questionnaire was used. The study used a four-point Likert-type scale, which allowed the researcher to list options (Very High Extent (VHE) – 4 points, High Extent (HE) – 3 points, Low Extent (LE) – 2 points, and Very Low Extent (VLE) – 1 point). Descriptive statistics is used and Pearson correlation as well as linear regression was used to establish relationship between the independent (information management) and dependent variable (office managers' job performance).

## Analysis and Discussion

### Information Management Practices

S/N	Statements	Mean
1	Ability to access E-mail	3.99
2	Ability to encrypt sensitive document	3.98
3	Skills in filtering information from online sources	3.90
4	Skills in retrieval of information	3.94
5	Skills in video-conferencing/Online Meetings	3.10
7	Ability to present information using Excel/Power BI/Tableau etc.	3.93
8	Ability to control malwares and spies	3.90
9	A robust knowledge of Anti-Virus	3.98
10	Ability to generate Information from Raw Data for management usage.	3.98
	<b>Average Mean</b>	<b>3.86</b>

### Office Managers' Job Performance

S/N	Statements	VHE
1	How would you rate the impact of information management practices on your overall job productivity as an office manager at the University of Ibadan?	3.98
2	Do you believe that the implementation of efficient information management practices positively influences your attitude towards work as an office manager?	3.98
3	To what extent do you think information management practices contribute to the improvement of your daily output and tasks in your role at the University of Ibadan?	3.90
4	Have you experienced any challenges in your job performance that you attribute to ineffective information management practices within the university?	3.93
5	Do you feel that poor information management negatively impacts the overall productivity of office managers at the University of Ibadan?	3.93

6	How significantly do you believe information management practices contribute to achieving key performance metrics related to your role, such as meeting deadlines and project completion?	3.90
7	In your opinion, to what extent does effective information management influence your ability to maintain a positive and proactive attitude in the workplace?	3.88
8	Have you observed any correlation between inadequate information management practices and a decrease in the quality of your work output or that of your colleagues?	3.90
9	Do you think there is room for improvement in the information management practices within the University of Ibadan to enhance the job performance of office managers?	3.91
10	To what degree do you believe that poor information management practices impact your job satisfaction and overall job performance as an office manager?	3.80
<b>Average Mean</b>		<b>3.91</b>

Descriptive Statistics								
	N Statistic	Mean Statistic	Std. Deviation Statistic	Variance Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Information Management Practices	80	3.8406	.12886	.017	-3.402	.269	14.004	.532
Office Managers Job Performance	80	3.9088	.21769	.047	-3.120	.269	10.033	.532
Valid N (listwise)	80							

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics F Change	df1	df2	Sig. F Change
1	.231 <sup>a</sup>	.053	.041	.21317	.053	4.390	1	78	.039

a. Predictors: (Constant), Information Management Practices

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.200	1	.200	4.390	.039 <sup>b</sup>
	Residual	3.544	78	.045		
	Total	3.744	79			

The p-value (0.039) is less than the significance level of 0.05. Since the p-value (0.039) is less than the significance level of 0.05, we reject the null hypothesis ( $H_0$ ). This suggests that there is evidence to support a relationship between information management practices and office managers' job performance in the university of Ibadan.

Coefficients <sup>a</sup>										
Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
1 (Constant)	2.411	.715		3.371	.001	.987	3.835			
Information Management Practices	.390	.186	.231	2.095	.039	.019	.761	.231	.231	.231

a. Dependent Variable: Office Managers' Job Performance

The coefficient for information management practices is 0.390 with a p-value of 0.039. The p-value (0.039) is less than the significance level of 0.05. Since the p-value for information management practices is less than 0.05, there is evidence to suggest that information management practices significantly predict office managers' job performance in the university of Ibadan.

### **Discussion of Findings**

**Research Question 1:** What are the information management practices adopted in the University of Ibadan?

The mean score of 3.8406 indicates a moderate level of information management practices in the University of Ibadan. The low standard deviation (0.12886) and variance (0.017) suggest that there is relatively low variability among respondents, indicating a general consensus on Information Management Practices.

**Research Question 2:** What is the level of Information Management Proficiency of Office Managers in the University of Ibadan?

The mean score of 3.9088 indicates a relatively high level of information management proficiency among office managers in the university of Ibadan. The standard deviation (0.21769) and variance (0.047) suggest moderate variability among respondents, indicating some diversity in the perceived proficiency levels.

**Research Question 3: What is the relationship between Information Management Practices and Office Managers' Job Performance in the University of Ibadan?**

The coefficient of Information Management Practices is positive (0.390), indicating a positive impact on job performance. Therefore, the null hypothesis ( $H_0$ ) is rejected, and it can be concluded that there is a relationship between information management practices and office managers' job performance in the University of Ibadan. The coefficient for information management practices is 0.390 with a p-value of 0.039. The p-value (0.039) is less than the significance level of 0.05. Since the p-value for information management practices is less than 0.05, there is evidence to suggest that information management practices significantly predict office managers' job performance in the University of Ibadan. This discovery aligns with Akpomi (2013) and Zain's (2014) research, as cited by Emenike (2022), this finding affirms that proficient information management practices lead to heightened proficiency and productivity and further contends that the efficacy and performance of present-day business managers rely on the availability of robust information management practices and the skills of office managers.

## **Conclusion**

In conclusion, this study highlights the critical role of information management in enhancing the job performance of office managers. The positive relationship identified underscores the need for organisations, including the University of Ibadan, to prioritize and invest in effective Information Management Practices to ensure optimal performance and competitiveness in the digital era.

## **Recommendations**

Implementing these recommendations will not only strengthen the Information Management Practices of Office Managers at the University of Ibadan but also contribute to their enhanced job performance in the digitalized office environment.

1. Organisations, particularly the University of Ibadan, should prioritize comprehensive training programs for Office Managers to enhance their Information Management Practices. This includes providing specialized training on the use of digital tools, data analysis, and cybersecurity measures. Regular workshops and skill-building sessions will keep Office Managers abreast of the latest information management trends and technologies.
2. Acknowledging the expanding role of secretaries into information management, organisations should explicitly integrate information management responsibilities into the job descriptions of Office Managers. This formal recognition ensures that these professionals are empowered and accountable for effectively managing information, aligning their duties with the evolving demands of the digitalized workplace.
3. Given the increasing reliance on digital information, organisations must prioritize robust information security measures. This includes implementing advanced encryption techniques, regular security audits, and fostering a culture of cybersecurity awareness among Office Managers. Ensuring the confidentiality, integrity, and availability of information will contribute to a secure and efficient digitalized work environment.
4. Facilitate a culture of collaboration and knowledge sharing among Office Managers. Establish platforms or forums where these professionals can exchange insights, best practices, and challenges related to information management. Encouraging collaboration fosters a supportive community that collectively enhances information management proficiency, contributing to improved job performance.
5. Organisations should institute a system for continuous monitoring and evaluation of Information Management Practices. This involves regularly assessing the effectiveness of implemented practices, identifying areas for improvement, and adapting strategies to align

with emerging technological trends. Periodic evaluations ensure that Information Management Practices remain relevant, efficient, and aligned with organisational goals.

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## Digital Technology and Administrative Service Delivery in the Federal Polytechnic, Ilaro

**\*JIMOH, Tajudeen Adisa & #JIMOH, Ibrahim Bamidele**

tajudeen.jimoh@federalpolyilaro.edu.ng & Ibrahim.jimoh@federalpolyilaro.edu.ng  
Office Technology and Management Department,  
The Federal Polytechnic, Ilaro,  
Ogun State, Nigeria

### Abstract

*This study examines the influence of digital technology on administrative service delivery in the Federal Polytechnic, Ilaro. Survey design was adopted and the population comprised all administrative staff of the Institution. Three research questions were raised, two hypotheses were formulated and a 4-point Likert type questionnaire was developed and administered on 100 senior Registry Staff of the Federal Polytechnic, Ilaro who were randomly selected as the sample. Descriptive data were analysed with frequency count, percentage and mean while the hypotheses were tested with regression analysis at 0.05 level of significance on SPSS Version 25. The results showed that high digital technology use for administrative functions and that it contributes significantly to rate of administrative service delivery (T-value = 3.583; P-value = 0.001<0.05) and quality of administrative service delivery (T-value 2.641; P-value = 0.000<0.05) in the Federal Polytechnic, Ilaro. The study concludes that digital technology use contributes significantly to administrative service delivery in the Federal Polytechnic, Ilaro. Hence, it was recommended, among others, that the Management of the Federal Polytechnic, Ilaro should intensify its digital innovation drive in terms of resources, tools and processes with a view to providing satisfactory administrative services.*

**Keywords:** Digital technology, Administrative service, Rate of service delivery, Quality of service delivery

### Introduction

Globally, tertiary educational institutions have the responsibilities of developing skills, competence and characters that are needed by individuals to participate in productive engagements relevant to the growth and development of their society and for providing services that are essential to the wellbeing of users, organisations, government agencies and other institutions. As a result, utilization of human, material and technological resources for optimal performance of tertiary institutions is a critical concern of management of such institutions. An important expectation from most public or state-owned organisations is the provision of efficient and quality services. When services offered by public organisations are effective and efficient, the objective of such organisation is partly met while people who receive such services derive satisfaction. One of the prominent sectors of public organization is the higher education. Organisations in higher education sector provide a range of services in line with their mandate of teaching, learning and

research. The pervasive use of technology is expected to serve as a pathway in generating significant or even massive benefits as the deployment of such technology presents bundle of resources and functions with increasing effectiveness and efficiency in activities (Sharmin et al., 2017; Giri, 2020).

In addition to the key mandate of teaching, learning, research, innovations, skill acquisition and development, tertiary education institution are giving attention effective administrative service delivery with reduced resources and cost efficiency towards facilitating the achievement of short and long term goals (Ekere, 2019). Administrative service delivery is seen as an important goal of organisations as it is perceived as one of the ways of ensuring smooth running of organisation, coordination of organisation's organs, meeting the needs and demands of people and government agencies, and ensuring stakeholders satisfaction. Essentially, changes in effective and efficient service delivery are key concerns of public service organisations including educational institutions (Giri, 2020). Service delivery is the process of providing a service to customers or the internal clients of an organization. It typically includes processes to design, develop, deploy and operate services. In many cases, service delivery also includes management of the contractual and financial aspects of service level agreements (Juka, 2020). Parasuraman et al. (2015) posit that service delivery is effective when some key elements such as reliability, assurance, tangibility, empathy, responsiveness and other features which conduce to customer confidence and satisfaction are present in such service delivery system.

According to Obikwelu (2014), providing quality services in a consistent way is the focus of ensuring total quality management in an organisation with a view to offer values to stakeholders and enhancing users' care and satisfaction from service rendered. This implies that the service delivery component of total quality management is quality-centred, customer-focused and team-driven process geared towards achieving an organization's strategic goals and maintain same over time. Thus, effective service delivery is aimed to provide a high quality and professional service stakeholders and expect staff to be approachable, courteous, well-informed about current matters and future developments, to act with integrity and honesty, and to provide accurate and timely information (Achimugu et al., 2017). Designing the service delivery system centres on value creation to the core organisations and how to engage frontline employees to deliver the ultimate customer experience (Serive Future, 2018). This means that service delivery is achieved when services are delivered in an effective, predictable, reliable and customer-friendly manner and customers, clients and all stakeholders derives expected satisfaction from the service.

One theory commonly used to underpin administrative service delivery is the "New Public Management" (NPM) theory which emerged in the late 20th century as a response to perceived inefficiencies and bureaucracies in traditional public administration (Pollitt & Bouckaert, 2011; Dunleavy et al., 2015). It emphasizes principles borrowed from private sector management practices to improve the effectiveness and efficiency, rate of service, responsiveness, quality of service rendered and feedback mechanisms in the administrative activities and service delivery of public enterprises (Pollitt & Bouckaert, 2011). By aligning administrative service delivery with NPM principles, government enterprises can enhance efficiency, effectiveness, and responsiveness in delivering administrative services (Dunleavy et al., 2015). Hence, the present study adopts rate and quality of administrative service as measures employed to assess the effectiveness and efficiency of administrative service delivery.

The drastic adoption of digital connectivity, automation and the unprecedented global growth in emergence and deployment of technology over the last few years has tremendously changed organisational activities and business operations and competitiveness (Sharmin et al., 2017). Accordingly, Achimugu et al. (2017) posit that an important driver of organisational activities and processes which affect rate and quality of service in most firms is technology and emerging innovations and resources. Increasingly, the use of digital tools and applications is leading to transformational shifts in public policy, processes, functions and essentially, service delivery as a number of empirical evidences shows that digital technology facilitates information sourcing and usage, improves operational efficiency and administrative effectiveness of public enterprises (Giri, 2020). Digital technologies present potential way out to service delivery issues such as high service or operational costs, poor quality of service and patchy desirability of services rendered (Haldrup, 2022)

Digital technology refers to a wide range application, resources and equipment, such as personal computer, scanners, digital camera, software, database programs, multi-media programs (Newhouse, 2018) and telecommunication tools - phones, faxes, videoconferencing equipment and web that are employed to access, retrieve, store, organize, manipulate, present, send material and communicate locally and globally through digital media (UNESCO, 2006). According to Sharma (2010), access to information is both a consequence and a driver of the digital technology. Efficient and effective administration, rest on the pillars of knowledge and recognition of this set of knowledge by the decision makers. Digitization of this entire set of knowledge within a network

which links every individual including the decision makers gives freedom to everyone to access and make use of this knowledge, paving the way for digital governance and provision of services.

Innovations in digital technology are changing traditionally accepted economic practices and making competition even stiffer, resulting in more and more flexible competitors exploring the same opportunities and offering better value propositions. Therefore, to remain competitive, organisations should leverage on digital resources offered by technology to drive their activities and change the way employees, managers and owners think and work in order to maintain competitive advantage and organisational survival (Edna et al, 2014). As a result of the trend in digital technology use and its capacity to drive organisational activities, the provision of service through the internet and related technologies is becoming the vogue in most organisations, both in the public and private sector. Prominent in the development of any nation is the education sector, and ICT induces changes in the running and management of universities, schools, colleges, polytechnics and more importantly in the way staff interact and participate in the administration of their organisation and how student access institutional facilities and services.

The new changes seen in the culture of providing service, players in the public organisations now embrace the use of digital tools and electronic platform to deliver their services. In line with this trend, players in the tertiary level of the Nigerian education sectors, that is, universities, polytechnics, colleges of education, also adopt technological and digital technology in rendering services. These services for example, range from classroom delivery, processing of students' registration, administration of examination, computation of results, processing of academic records of current and ex-students, assessment and payment for services by clients and suppliers, etc. (Jayanetti, 2014). These radically increase efficiency and effectiveness in the delivery of services (Adeboye, 2015) and the online services reduces bureaucracy, paperwork, and saves time (Edna, 2014).

The reason for this new development in service delivery is that today's truly successful organization must embrace Information Technology and leverages it in order to achieve great results, especially in service delivery. Traditional economic truths are no longer applicable in the virtual world of the internet and e-business, as accepted principles in Physics are not applicable with the inversed world of a black hole. Considering the trend in the use of digital platform and resources for service offerings, the objective of this study is to assess the impact of digital

technology on the rate and quality of service delivery, with particular focus on service delivery in public tertiary institutions using the Federal Polytechnic, Ilaro as a reference institution.

### **Methodology**

The population of this study comprised all Senior Registry staff of the Federal Polytechnic, Ilaro, Ogun State. A sample of 100 senior Registry staff across different units and sections of the Institution was selected with simple random sampling approach in accordance with the Krejcie and Morgan sample size determination for a known population. The sample drawn from the Registry Department serves as representative of the entire administrative staff members of the Institution. In line with the objectives of determining the impact of digital innovation on service delivery in the Federal Polytechnic, Ilaro, the following null hypotheses were formulated:

*H<sub>01</sub>*: Digital technology use does not have any significant impact on the rate of administrative service delivery in The Federal Polytechnic, Ilaro.

*H<sub>02</sub>*: Digital technology use does not have any significant impact on quality of administrative service delivery in The Federal Polytechnic, Ilaro.

The questionnaire method was used for data collection. Apart from the demographic data of the respondents, the questionnaire consisted Digital Technology scale with 7 items adapted and modified from Achimugu et al. (2017) and Service Delivery Scales - Rate of Administrative Service Delivery and Quality of Administrative Service Delivery with 6 items each which were adapted from Parasuraman et al. (2015) and Jukka (2020) Service delivery scales. All the items were designed on a 4-point likert rating scale ranked as 1 – 4 from lowest to the highest options. The reliability of the instrument was determined with test-re-test method using Pearson Product Moment Correlation which gave a correlation co-efficient of 0.81.

### **Results**

Out of 100 questionnaires administered, 86 were completed and returned by the respondents. Hence the returned 83 were used for data analysis. Given the nature of the data all analyses were conducted via SPSS Version 25 statistical software. Hypotheses formulated were tested with regression statistics at 0.05 level of significance. For the acceptance or otherwise of the hypotheses, the criteria is given as - Reject the Null Hypotheses if the P-value is greater than 0.5 level of significance and accept the Alternative Hypotheses.

**RQ1:** What is the level of digital technology use for administrative services in the Federal Polytechnic, Ilaro?

**Table 1: Means Responses to Research Question 1**

Inputs	Item	Observations	Average Response	Stand. Dev.	p-value
7	Level of Digital Tech. Use (DTech =7)	86	3.021	0.1130	0.000

*Source: Field Survey Results (2023)*

Table 1 above shows the average mean response on the level of digital technology use for administrative services. The average response of 3.02 and a p-value of  $0.000 < 0.05$  indicate significantly high level of digital innovations in the Federal Polytechnic, Ilaro.

### Hypotheses 1

$H_{01}$ : Digital technology use does not have any significant impact on the rate of administrative service delivery in The Federal Polytechnic, Ilaro.

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630 <sup>a</sup>	.199	.191	.27574

a. Predictors: (Constant), DTech.

*Source: Field Survey Results (2023)*

Table 2 shows the model summary of the relationship of the variables. The result indicates that there is a moderately strong positive relationship between digital technology use and rate of administrative service delivery with correlation coefficient of 0.630. The result also revealed that about 19% of the total variation in rate of administrative service delivery could be attributed to digital technology use.

**Table 3: Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.026	1	.026	.339	.001 <sup>b</sup>
	Residual	6.387	84	.076		
	Total	6.412	85			

a. Dependent Variable: RAS

b. Predictors: (Constant), DTech

*Source: Field Survey Results (2023)*

The ANOVA table above shows F-value of 0.339 and P-value of  $0.001 < 0.05$  which positions the model as statistically adequate and sufficient in relating the dependent variable (rate of administrative service delivery) with independent variable (digital technology use).



**Table 4: Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	7.392	.395			8.578	.000
DTech	.225	.111	.063		3.583	.001

a. Dependent Variable: RAS

Source: *Field Survey Results (2023)*

Table 4 gives the co-efficient of the influence of digital technology use on rate of administrative service delivery. From the result, the significant value of 0.001 which is less than 0.05 indicates that digital technology use has significant influence on rates of service delivery and that rate of administrative service delivery will stand at 7.3% without digital technology use. However, a unit increase in digital technology use will lead to about 22.5% increase in rate of administrative service delivery. Hence, at t-value 3.583 and P-value  $0.001 < 0.05$ , we reject the null hypotheses and accept the alternative hypotheses that digital technology use has significant impact on the rate of administrative service delivery in The Federal Polytechnic, Ilaro.

## Hypotheses 2

$H_{02}$ : Digital technology use does not have any significant impact on quality of administrative service delivery in The Federal Polytechnic, Ilaro.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.370 <sup>a</sup>	.163	.121	.26364

a. Predictors: (Constant), DTech

Source: *Field Survey Results (2023)*

Table 5 shows the model summary of the relationship of the digital technology use and quality of administrative service delivery. The result indicates a low positive relationship between the variables with correlation coefficient of 0.370 and that 12.1% variation in quality of administrative service delivery could be accounted for by digital technology use.

**Table 6: Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	.411	.000 <sup>b</sup>
	Residual	5.839	84	.070		
	Total	5.867	85			

a. Dependent Variable: QAS

b. Predictors: (Constant), DTech

Source: *Field Survey Results (2023)*

Table 6 shows F-value of 0.441 and P-value of  $0.000 < 0.05$  which depicts that the model used for the test is statistically adequate in relating the variables under test, that is, digital technology use and rate of administrative service delivery.

**Table 7: Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	3.369	.378		4.909	.000
DTech	.168	.106	.070	2.641	.000 <sup>b</sup>

a. Dependent Variable: QAS

**Source: Field Survey Results (2023)**

Table 7 gives the co-efficient the influence of digital technology use on quality of administrative service delivery. The test gave a p-value  $0.000 <$  indicating that digital technology use has significant influence on quality of service delivery. The result shows that a unit increase in digital technology use will lead to about 16.8% increase in quality of administrative service delivery. Hence, at t-value 2.641 and P-value  $0.000 < 0.05$ , we reject the null hypothesis 2 and accept the alternative hypothesis that digital technology use has significant impact on quality of administrative service delivery in The Federal Polytechnic, Ilaro.

### Discussion of Results

Research Question One was raised to determine the level of digital technology use for administrative services in the Federal Polytechnic, Ilaro. It was found that there is high use of digital technology for administrative purposes and service delivery in the Institution. This implies that the Institution under study adopts digital tools and resources and integrates digital processes in its administrative activities in all its organs and departments. It is evidently clear that administrative staff of the Institution are provided with digital resources and platform that could enhance their effective and efficient functioning of administrative units.

Null Hypothesis One was formulated to determine the influence of digital technology use on rate of administrative service delivery in the Federal Polytechnic, Ilaro. The results reveal a significant influence of digital technology use on rate of administrative services in the institution. The result implies that digital technologies use contributes vastly to the rate at which administrative services are being provided in the Institution. It was revealed that the adoption of digital tools, techniques and processes in different areas of the administrative services, reliable and functional information and communication networks which support and aid workflow among administrative units, digital platforms and new technologies that are being integrated into work processes enhance administrative services in the Institution through prompt and secured payment of fees, efficiency in transcripts processing, provision of academic records of current and past students, internal administrative communications. This results support Edna (2014), Achimugu (2017) and Sharmin (2017) that the deployment and effective use of digital resources and technologies drastically

change the process and rate at which services are being rendered and facilitates how organisations' administrative and operational functions are being rendered.

The result of Hypothesis Two point to significant influence of digital technology use on rate of administrative service delivery in the Federal Polytechnic, Ilaro. It is clear from the results that the utilization of digital technologies and platforms greatly facilitate efficiency in administrative activities thus enhancing the rate at which such services are being rendered in the Institution. Based on the result, it can be safe to say that there is promptness in payment of fees, application for academic or studentship records, and that internal communication among persons and departments in saddled with administrative roles is enhanced through improved processes that are aided by digital technologies. These findings corroborate Achimugu (2017) and Newhouse (2018) that availability and use of digital resources essentially aid how tasks in jobs are carried, the rate at which such tasks are completed, it contributes to efficiency of services and promptness in identifying issues in organisational methods of providing services.

It was also found from the result of Hypothesis Three that digital technology use has significant influence on the quality of administrative services in the Federal Polytechnic, Ilaro. This reveals that the use digital tools, resources and adoption of digital-based processes enhance quality of administrative services in terms of effectiveness, reliability and satisfactoriness. This, according to the findings, could be as a result of available of information needed to carry out administrative services, reduction of physical efforts and stress, ease of administrative activities, etc. which lend added value to quality of administrative services. This corroborates Newhouse (2018) and Bhavan (2020) that the quality and satisfaction in services rendered by organisation are aided by digital technologies and expertise to deliver value on service rendered.

## **Conclusion**

This study examined the influence of digital technology use on administrative service delivery in the Federal Polytechnic, Ilaro. Based on the findings of the study, it is concluded that the adoption and utilization of digital technologies have significant positive contributions to administrative service delivery in the Institution. Effective and appropriate use of available digital resources aid in the performance of administrative functions and enhance the rate and quality of administrative service delivery in the Institutions. It is clear from the result that innovation in technology and processes help the organisation in ensuring timely access to information and guarantees effective discharge of services to students, ex-students, organizations, etc.

Based on the finding of this study, it is concluded that digital technology is essentially needed to stimulate timeliness and quality of administrative services in an organisation and that tertiary institutions cannot deliver well in their services to its clients (past and present students, staff, community members, government agencies and other institutions) without the use of digital technologies.

### **Recommendations**

Base on the findings of this study, the following recommendations were made:

1. The Management of the Federal Polytechnic, Ilaro should intensify its digital innovation drive in terms of resources, tools and processes with a view to providing effective and timely administrative services.
2. Staff should be encouraged to update their knowledge in digital devices and applications with a view to ensuring that they possess up-to-date technological competence on the use of digital tools in providing services to students, ex-students, organisations, other institutions, clients, contractors, etc.
3. Internet facilities should be provided to offices to increased access to the internet connections by staff and students and to enhance provision of services.
4. Adequate funding should be provided by government to tertiary education sector for the purpose of digital transformation.

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(NIOAIM)**

For further enquiries, please contact:  
**NIOAIM Secretariat, Department of Information Management,**  
Lead City University, Ibadan, Nigeria  
**Tel:** +234-806-429-7522    +234-703-555-9223    +234-805-470-5803  
**E-mail:** [nioaiminfo@gmail.com](mailto:nioaiminfo@gmail.com)  
**Website:** [www.nioaim.org](http://www.nioaim.org)



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