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Assessing Digital Technologies' Impact On Secretaries' Job Performance In State-Owned Universities In South-West, Nigeria

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Abstract
In the contemporary professional realm, digital technologies have become crucial for improving job performance, particularly in secretarial administration at state-owned universities. This study, "Assessing Digital Technologies' Impact on Secretaries' Job Performance: A Study of State-Owned Universities in South-West Nigeria," investigates the influence of digital tools on secretarial efficiency and effectiveness. It examined the availability and readiness of secretaries to adopt these technologies, offering insights into their current digital integration. The study employs a descriptive survey design, sampling 315 secretaries from six universities using the Digital Technologies' Knowledge Questionnaire (DTKQ). Findings reveal that digital technologies are moderately to highly available, with an overall mean score of 3.37, indicating reasonable access. Utilization of these technologies is moderate, with a mean score of 3.33, highlighting the need for improved training and support. The study underscored the importance of enhancing access to digital tools, providing comprehensive training, fostering a supportive digital culture, implementing strategic governance, and promoting collaboration among secretaries. These measures can significantly improve administrative efficiency and secretarial job performance in state-owned universities in South-West Nigeria.

Key words:Digital technology, secretary, job perfomance

Introduction
In the modern professional landscape, the integration of digital technologies has become a pivotal factor in enhancing job performance across various sectors. Secretarial administration, particularly within state-owned universities, is no exception. Secretaries serve as the backbone of administrative operations, managing information, communication, and organizational tasks essential to the smooth functioning of academic institutions. This study, titled "Assessing Digital Technologies' Impact on Secretaries' Job Performance: A Study of State-Owned Universities in Southwest Nigeria," seeks to explore the influence of digital tools on the efficiency and effectiveness of secretarial work in these universities.

Digital technologies encompass a broad range of tools and platforms designed to streamline workflows, improve communication, and enhance data management (Barlatier, Mention, & Misra 2020). These technologies are essential for secretarial roles, which often involve handling

vast amounts of information, coordinating meetings and events, and maintaining organizational efficiency. The adoption of digital tools can significantly improve job performance by reducing manual workloads, minimizing errors, and enabling more efficient time management. The necessity of digital technologies in secretarial administration is underscored by the demands of the modern educational environment. State-owned universities, in particular, benefit from digital tools that facilitate better data management, enhance communication channels, and support administrative processes. The implementation of these technologies can lead to improved productivity, higher job satisfaction, and more effective management of academic and administrative tasks.

The significance of this research lies in its potential to inform policy and practice within the education sector. By examining the availability, awareness, receptivity, and readiness of secretaries to adopt digital technologies, this study aims to provide valuable insights into the current state of digital integration in state-owned universities. Furthermore, it seeks to highlight the factors that influence the successful utilization of these tools, offering recommendations for enhancing secretarial job performance through effective digital adoption.

Several studies have highlighted the positive impact of digital technologies on job performance. For instance, Martínez-Caro, Cegarra-Navarro, and Alfonso-Ruiz (2020) emphasize the importance of fostering a digital organizational culture to enhance firm performance. In the context of secretarial administration, such a culture can improve the ability to manage information and streamline processes. Similarly, Gloria Chinyere, Oke, and Onwukwe (2023) found a direct correlation between the utilization of digital skills and job performance among information managers in educational settings.

Moreover, the broader implications of digital transformation on occupations have been explored by Fossen and Sorgner (2019), who identified both transformative and disruptive effects of new technologies on jobs. For secretaries, adapting to these changes involves not only adopting new tools but also acquiring the necessary skills to use them effectively. Di Giulio and Vecchi (2023) further underscore the importance of governance and strategic implementation in the public sector, highlighting the need for support systems that facilitate the transition to digital workflows.

Additionally, addressing gender dynamics in the adoption of digital technologies is crucial. West (2022) noted that while technology can enhance productivity, it also requires addressing specific challenges faced by women in acquiring and utilizing digital skills. This aspect is particularly relevant in secretarial roles, which are predominantly occupied by women.

This study aims to provide a comprehensive understanding of how digital technologies impact secretarial job performance in state-owned universities in South-West Nigeria. By examining the factors influencing digital tool adoption and utilization, the research seeks to offer actionable insights and recommendations for improving administrative efficiency and effectiveness through digital integration.

Statement of the Problem

Despite the increasing integration of digital technologies in various professional fields, the extent to which these technologies are adopted and utilized in secretarial administration within state-owned universities in South-West Nigeria remains unclear. Secretaries play a crucial role in managing administrative tasks, yet there is limited research on how digital tools impact their job performance. Without a comprehensive understanding of the availability, awareness, receptivity, readiness, and actual utilization of digital technologies among secretaries, these institutions risk inefficiencies and suboptimal administrative functioning.

The problem is exacerbated by potential barriers to digital adoption, such as inadequate training, resistance to change, and lack of institutional support. Gender dynamics further complicate this issue, as female secretaries, who predominantly occupy these roles, may face unique challenges in acquiring and utilizing digital skills. This study seeks to address these gaps by systematically examining the factors influencing digital technology adoption and its impact on secretarial job performance in state-owned universities in South-West Nigeria.

Purpose of the Study

The purpose of this study is to investigate the extent to which digital technologies impact the job performance of secretaries in state-owned universities in South-West Nigeria. Specifically, the study aims to:

1. Determine the extent to which secretaries utilize digital technologies to enhance their job performance.
2. Examine the availability of digital technologies for enhancing secretaries' job performance.

Research Questions

To achieve the objectives of this study, the following research questions will be addressed:

1. To what extent do secretaries utilize digital technologies to enhance their job performance in state-owned universities in South-West Nigeria?
2. How available are digital technologies for enhancing secretaries' job performance in state-owned universities in South-West Nigeria?

Research Hypotheses

The following two (2) null hypotheses were tested at 0.05 level of significance using Simple Linear Regression, Pearson Product Moment Correlation (PPMC) and t-test.

H_{01}: There is no significant relationship between Digital Technologies utilisation/availability and job performance of secretaries in post-COVID-19 era in State universities in Southwest, Nigeria.

H_{02}: There is no significant difference in the secretaries' job performance based on gender.

Methodology

This study adopts a descriptive survey design to examine the availability and utilization of digital technologies among secretaries in state-owned universities across Southwest Nigeria. The population comprises 830 secretarial employees from various universities within the region, with the specific universities identified and listed, including an overview of the number of secretaries by gender. Sampling involved the random selection of 6 state-owned universities, from which a representative sample of 315 secretaries was chosen for participation. The primary instrument used for data collection is a structured questionnaire known as the Digital Technologies' Knowledge Questionnaire (DTKQ). Responses were collected using a modified Likert scale to capture nuanced perceptions and experiences. The validity of the DTKQ was ensured through a rigorous content validation process involving three experts from the Department of Office

Technology and Management at The Polytechnic, Ibadan. They reviewed the instrument for organization, relevance, and clarity of language, incorporating their feedback to refine the questionnaire before final administration.

To establish the reliability of the instrument, a pilot test was conducted with 20 secretaries at Delta State University, resulting in a Cronbach's Alpha coefficient of 0.791, indicating strong internal consistency. Data collection was carried out by trained research assistants administering the DTKQ, ensuring consistency and reliability in data gathering. Out of 315 questionnaires distributed, 305 were returned and deemed suitable for inclusion in the final analysis. Quantitative analysis included the calculation of means and standard deviations to address research questions, while hypothesis testing utilized t-tests to determine statistical significance ($p < 0.05$). Criteria for interpreting results stipulated that mean scores ≥ 2.5 indicated high levels of availability, and utilization of digital technologies among secretaries.

Result

Research Question 1: How available are digital technologies for enhancing secretaries' job performance during post-COVID era in state-owned universities in Southwest, Nigeria?

Table 1: Mean and standard deviation of the responses of secretaries on the availability of digital technologies for enhancing their job performance during post-covid era in state-owned universities in South-West, Nigeria are as shown in Table 1

N = 305

S/N	Availability of digital technologies	$\bar{X}$	S.D	Remarks
1	Tools to telework such as Chat App, Web-Conferencing, Flexible business Telephone Service, Screen Sharing App and Cloud-Based Project Mangement Solution	3.61	0.49	Highly Available
2	Zoom, Google Meet, Microsoft Team, Skype, etc	3.19	0.40	Moderately Available
3	Google document	3.25	0.68	Moderately Available
4	Desktop Publishing tools such as FrameMaker, Corel Draw, WordPerfect, QuarkXPress, etc	3.50	0.50	Highly Available

5	Internet	3.03	0.77	Moderately Available
6	Teleconferencing Solutions such as WebEx, GoToMeeting, U Meeting, BlueJeans, etc	3.31	0.78	Moderately Available
7	Web-Based Applications such as Gmail, Google Docs, Google Sheets, etc	3.78	0.53	Highly Available
8	Digital ticker file	3.14	0.48	Moderately Available
9	Google Calendar	3.31	0.70	Moderately Available
10	File sharing software tools e.g Google Drive, OneDrive, Dropbox, ShareFile etc	3.39	0.64	Moderately Available
11	OneNote tool	3.22	0.71	Moderately Available
12	WhatsApp	3.36	0.75	Moderately Available
13	Facebook	3.58	0.64	Highly Available
14	YouTube	3.58	0.55	Highly Available
15	Telegram	3.33	0.75	Moderately Available
16	Instagram	3.42	0.68	Moderately Available
17	Twitter	3.42	0.72	Moderately Available
18	Otter.ai software	3.50	0.69	Highly Available
19	E-mail	3.33	0.63	Moderately Available
20	Online collaboration tools such as project management applications, remote conferencing platforms, messaging apps, etc	3.17	0.73	Moderately Available
21	System Management Software such as Microsoft	3.56	0.55	Highly Available

	Word, Google Chrome, Mozillar Firefox, etc			
22	Telecommunications through wired phone, mobile phone, internet, telegraph, etc	3.14	0.75	Moderately Available
	Average Mean	**3.37**		**Moderately Available**

The comments of secretaries on the availability of digital technology for improving their job performance in the post-COVID period are shown in Table 1 The mean values of all 22 items range from 3.03 to 3.78, placing them in the highly and moderately available answer categories. There are fifteen (15) products that are fairly available, and seven (7) items—1, 4, 7, 13, 14, 18, and 21—are very available. The mean of 3.37 for all responses is reasonably available. Thus, it can be said that digital technologies are somewhat available to improve the work performance of secretaries at public universities in South-West, Nigeria.

Research Question 2: What is the level of secretaries' utilization of digitial technologies during post-COVID-19 era in state-owned universities in South-West, Nigeria?

Table 2: Mean and standard deviation of the responses of secretaries on their level of utilization of digitial technologies during post-COVID-19 era in state-owned universities in Southwest, Nigeria are as shown in Table 4.6.

N = 305

S/N	Secretaries' utilization of digitial technologies	$\bar{X}$	S.D	Remarks
1	Being able to use digital technologies, such as browser, connecting to the internet, updating and keeping passwords secure	3.56	0.69	Highly Utilized
2	Being able to send emails securely, using attachments, and participating on social media to communicate effectively	3.58	0.49	Highly Utilized
3	Using search engines, being aware that not all online content is reliable, accessing content across devices in handling information and contents	3.22	0.63	Moderately Utilized
4	Setting up accounts to use or purchase	3.25	0.80	Moderately

	goods/services online, using different secure payment methods, filling in online forms for transactions			Utilized
5	Finding solutions to problems using FAQs/tutorials/chat, presenting solutions through software, and improving productivity	3.69	0.46	Highly Utilized
6	Using digital signatures to implement electronic signatures	3.22	0.58	Moderately Utilized
7	Understanding best practice in data storage/sharing, and taking precautions against viruses	3.58	0.64	Highly Utilized
8	Identifying and navigating common examples of databases from everyday life (e.g. library catalogs, school records, contact directories, and search directories)	3.00	0.41	Moderately Utilized
9	Being able to set-up meetings on Zoom, Google Meet, Microsoft Team, WebEx, etc	2.89	0.70	Moderately Utilized
10	Being able to take proceedings of meeting on Zoom and other platforms with computer-based software such as otter.ai	3.44	0.50	Moderately Utilized
11	Managing or updating your organisation's social media presence using Facebook, LinkedIn, Youtube, Instagram, Twitter, Pinterest, etc	3.14	0.79	Moderately Utilized
12	Collaborating effectively by holding an online video conference with colleagues, providing feedback on a document through a web-based document application, etc	3.69	0.46	Highly Utilized
13	Creating and editing files in various formats, including audio, video, moving images, text, and graphics	3.36	0.75	Moderately Utilized
14	Demonstrating an understanding of basic design principles and strategies to increase the	3.19	0.70	Moderately Utilized

	effectiveness of a digital product as viewed by different audiences and in different contexts (print, web, screen, and monitor)			
15	Using smartphones and tablets to access and communicate via email, whatsapp, youtube, facebook, etc for office routine	3.22	0.75	Moderately Utilized
16	Making strategic use of visual and audio elements, such as graphics, audio effects, transitions, animations, and video components, to add interest and express meaning	3.53	0.65	Highly Utilized
17	Using Microsoft OneNote App for drawings, screen clippings and audio commentaries and be able to share with other OneNote users over the internet or a network	3.28	0.45	Moderately Utilized
18	Using Microsoft Office, which provides more applications such as Microsoft Word, Excel, PowerPoint, and Outlook, to support daily office tasks	3.19	0.78	Moderately Utilized
19	Using a variety of electronic formats (e.g. web publishing, oral presentations, journals, and multimedia presentations) to summarize and communicate results	3.33	0.47	Moderately Utilized
20	Assessing the appropriateness of software applications to accomplish a defined task such as using CorelDraw to design Business Letterhead for the organization	3.19	0.81	Moderately Utilized
	Average Mean	**3.33**		**Moderately Utilized**

The comments of secretaries on their degree of use of digital technology are shown in Table 2. The mean values of all 20 items range from 2.89 to 3.69, placing them in the highly and

moderately used answer categories. The other 14 elements are used moderately, and the first six—1, 2, 5, 7, 12, and 15—are widely utilized. The mean of 3.33, which is the average for all responders, is classified as moderately used. Thus, it can be said that secretaries at state-owned institutions in South-West, Nigeria, are using digital technology to a limited extent.

Test of Hypotheses

Hypothesis One: There is no significant relationship between Availability/Utilisation and secretaries' job performance. This hypothesis was tested using Pearson Product Moment Correlation Coefficient and the matrix is presented in tables 3 and 4 below:

Table 3: Descriptive Statistics

	Mean	Std. Dev	N
Digital Technology Availability	36.8623	4.53648	305
Digital Technology Utilisation	33.4131	3.01201	305
Secretary Job Performance	37.7541	6.42685	305

Table 4: Pearson Correlation Matrix.

Variables			DT Availability	DT Utilisation	Sec Job Perf
Availability	Pearson Correlation	-.273**	1		.110*
	Sig. (2-tailed)	.000			.050
	N	305	305		305

Utilisation	Pearson Correlation	.257**		1	.312**
	Sig. (2-tailed)	.000			.000
	N	305		305	305
Sec Job Perf	Pearson Correlation	1	.110	.312**	
	Sig. (2-tailed)		.055	.000	
	N	305	305	305	

** Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Result of analysis shows that the correlation coefficient (r) for the relationship between Availability and Secretaries' Job Performance was significant at $p < .05$ ($r = .110$, $p < .05 = .050$), and the coefficient (r) for the relationship between Utilisation and Secretaries' Job Performance was equally significant at $p < .05$ ($r = .312$, $p < .05 = .001$). This implies that the null hypothesis of no significant relationship is rejected, indicating that a significant relationship exists between Availability/Utilisation and Secretaries' Job Performance.

Hypothesis Two: There is no significant difference in the Secretaries' Job Performance based on gender? This research question was answered with t-test statistics and the result is presented in Tables 5 below:

Table 5: Summary of t-test showing the difference in the Secretaries' Job Performance based on gender.

Variable	Levels of Gender	N	Mean	Stdd ev	Std error	t	df	Sig	Remark

Secretaries	Male	45	35.02	4.07	.608				
Job						-3.133*	303	.002	Sig
Performance	Female	260	38.22	6.64	.412				

*t significant at the .05 level (2-tailed).

Result of analysis shows that there was a significant difference in the Secretaries' Job Performance based on gender. ($t_{(303)}$ = -.3.133, $p < .05$ = .002) leading to the rejection of hypothesis two.

Discussion of Findings

The integration of digital technologies in the workplace has become essential for improving job performance, particularly in secretarial roles within educational institutions. This study examined the availability and utilization of digital technologies among secretaries in state-owned universities in South-West Nigeria. The findings provide valuable insights into how these technologies are impacting secretarial job performance.

Research Question 1 focused on the availability of digital technologies for enhancing secretaries' job performance in state-owned universities in South-West Nigeria. The results, presented in Table 1, indicate that digital technologies are generally moderately to highly available. The average mean score of 3.37 suggests that secretaries have reasonable access to various digital tools necessary for their work. Specifically, tools for telework, desktop publishing tools, web-based applications, system management software, and platforms like Facebook and YouTube were rated as highly available, with mean scores ranging from 3.50 to 3.78. This high availability is crucial for supporting the diverse and complex tasks performed by secretaries, such as document creation, information management, and communication. These findings align with those of Martínez-Caro, Cegarra-Navarro, and Alfonso-Ruiz (2020), who emphasized the importance of a digital organizational culture in enhancing job performance by providing essential tools and resources.

Conversely, certain tools, including email, file-sharing software, and online collaboration tools, were rated as moderately available, with mean scores between 3.03 and 3.42. While these tools are essential for efficient job performance, their moderate availability suggests potential gaps in

access or distribution, which could hinder optimal utilization. This is consistent with the observations of Di Giulio and Vecchi (2023), who noted that strategic implementation and governance are critical in ensuring the comprehensive availability of digital tools in public sector organizations. Overall, the findings indicate that while a broad range of digital technologies is available to secretaries, there is still room for improvement in ensuring consistent and comprehensive access to all necessary tools. Gloria Chinyere, Oke, and Onwukwe (2023) also highlighted the correlation between digital skills utilization and job performance, underscoring the need for improved access to digital technologies to enhance secretarial efficiency.

Research Question 2 addressed the level of secretaries' utilization of digital technologies. As shown in Table 2, the mean scores for the utilization of digital technologies range from 2.89 to 3.69, with an overall average mean score of 3.33, indicating moderate utilization. Highly utilized technologies include general digital competencies such as using browsers, managing passwords, and secure email communication, with mean scores of 3.56 and 3.58, respectively. Additionally, secretaries are effectively using digital tools for problem-solving, data storage, and online collaboration, as indicated by the high utilization scores for finding solutions, understanding best practices in data management, and collaborating via video conferencing platforms. This aligns with the findings of Fossen and Sorgner (2019), who mapped the transformative effects of digital technologies on job roles and highlighted the importance of digital competencies in enhancing job performance.

However, the moderate utilization of tools for more specialized tasks, such as setting up online meetings (mean score of 2.89), using digital signatures (mean score of 3.22), and managing organizational social media presence (mean score of 3.14), suggests that secretaries may need additional training and support to fully leverage these technologies. The moderate utilization of tools like Microsoft OneNote, Microsoft Office, and digital design applications further highlights the need for ongoing professional development. West (2022) emphasized that while digital technologies can enhance productivity, they also require addressing specific challenges faced by employees, particularly in acquiring and utilizing digital skills. The findings reveal that while secretaries in state-owned universities in Southwest Nigeria are moderately utilizing available digital technologies, there are areas where increased training and support could enhance their proficiency and effectiveness. Ensuring that secretaries are well-equipped to use all available digital tools will be vital for maximizing their job performance and overall productivity.

Conclusion

The study's findings underscore the critical role of digital technologies in enhancing secretarial job performance in state-owned universities in South-West Nigeria. While digital technologies are moderately to highly available, their utilization by secretaries is moderate, indicating the need for further support and training. By addressing these gaps, educational institutions can significantly improve administrative efficiency and support the professional growth of their secretarial staff.

Recommendations

Based on the findings of this study, several recommendations can be made to enhance the availability and utilization of digital technologies among secretaries in state-owned universities in South-West Nigeria:

1. Universities should invest in ensuring that all necessary digital tools, including email systems, file-sharing software, and online collaboration platforms, are readily available to secretarial staff. This can be achieved through budget allocations specifically earmarked for digital infrastructure and resources.
2. A well-tailored training initiative should be implemented to address the specific needs and skill levels of individual secretaries. Acknowledge variations in familiarity with Digital Technologies among employees and provide training programs tailored to accommodate these differences.
3. Effective governance structures should be put in place to oversee the implementation and management of digital technologies. This includes setting clear policies and guidelines, ensuring data security, and regularly evaluating the effectiveness of digital tools in enhancing job performance. Strategic governance will help address potential barriers and streamline the digital adoption process.
4. Universities should regularly monitor and evaluate the utilization of digital technologies by secretarial staff. Feedback mechanisms, such as surveys and performance reviews, can help identify areas for improvement and ensure that digital tools are being effectively used to enhance job performance.
5. Continuous investment in up-to-date digital tools and software is essential. Universities should prioritize acquiring the latest technologies that can improve workflow, enhance

communication, and streamline administrative processes. Tools for telework, desktop publishing, and web-based applications should be regularly updated to meet evolving needs.

6. Encourage secretaries to share their experiences and best practices in using digital technologies. This can be facilitated through regular meetings, workshops, and online forums where secretaries can collaborate, exchange ideas, and learn from each other.

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