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TECHNOLOGICAL ADVANCEMENT AND GENDER DISPARITIES IN WOMEN'S EMPLOYMENT OPPORTUNITIES IN POLYTECHNICS: EVIDENCE FROM SOUTH-WEST NIGERIA

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Abstract: *The Fourth Industrial Revolution has redefined employment landscapes globally, with profound implications for gender equity in technical education institutions. While technological innovation has created new opportunities, it has also reinforced existing disparities, particularly in regions where cultural norms and institutional structures disadvantage women. This study examines the intersection of technological advancement and gender discrimination in shaping women's employment opportunities in polytechnics across South-West Nigeria. Using a mixed-methods design, primary data were collected through structured questionnaires administered to academic and non-academic staff across federal, state, and private polytechnics. Quantitative data were analyzed using descriptive statistics and regression models, while qualitative responses provided contextual insights. Findings reveal that although technological integration—such as digital learning systems and automation—has expanded skill requirements and efficiency, women's participation in emerging roles remains constrained by unequal access to training, limited representation in STEM fields, and entrenched institutional biases. Discrimination was reported in recruitment, promotion, and workload distribution, with organizational culture amplifying these effects. The study concludes that without gender-sensitive policies, technological transformation risks widening rather than narrowing the employment gap. Policy recommendations include targeted digital skills programs for women, mentorship networks, and institutional reforms to address systemic bias. The findings contribute to the discourse on gender-inclusive technological adaptation in higher education, offering evidence-based guidance for policymakers and educational leaders in Nigeria and similar contexts.*

Keywords: *Technological revolution, gender discrimination, women's employment, polytechnics, South-West Nigeria, STEM participation*

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INTRODUCTION

Technological progress in the 21st century has fundamentally altered the organization of work, reshaping production processes, employment structures, and required competencies across sectors. In technical education institutions, particularly polytechnics, innovations such as learning management systems, virtual laboratories, and automation tools have transformed both teaching and administrative functions. While these advancements have the potential to democratize access to opportunities, they often exacerbate pre-existing inequalities when institutional and societal contexts remain gender-biased.

Globally, the Fourth Industrial Revolution is characterized by digitalization, artificial intelligence, and automation. It has been lauded for improving productivity and creating new job categories. However, it has also displaced workers in traditionally female-dominated clerical and administrative roles, increasing the urgency for continuous upskilling. Women, especially in developing countries, face disproportionate barriers to acquiring the digital competencies necessary for these emerging roles due to limited access to training, mentoring, and institutional support (Stein, 2023).

In Nigeria, polytechnics occupy a strategic position in producing skilled technical graduates. Yet, they reflect broader gendered employment patterns: women remain underrepresented in STEM-related departments and leadership roles, and often encounter workplace cultures that undervalue their contributions. Studies have shown that gender discrimination in Nigerian higher education manifests through unequal recruitment practices, promotion barriers, and exclusion from decision-making (Olaogun, Adebayo & Oluyemo, 2015; Eboiyehi, Fayomi, & Eboiyehi, 2016). These systemic inequalities intersect with technological transitions, creating compounded disadvantages for female staff.

Despite increasing policy attention, empirical research on how technology-driven changes influence gendered employment outcomes in polytechnics remains scarce. This study addresses this gap by examining the dual effects of technological advancement and gender discrimination on women's employment opportunities in South-West Nigerian polytechnics. By situating these findings within feminist theoretical perspectives, the study advances the discourse on gender-inclusive technological adaptation in higher education.

Objective of the Study

- To find out if technological revolution create equal opportunities and motivation for increased women participation in workplace
- To ascertain gender discrimination in the workplace

Research Questions

- How does technological revolution create equal opportunities and motivation for increased women participation in workplace?

Is there gender discrimination in the workplace?

LITERATURE REVIEW

Technological Advancement and Employment

Technological advancement, encompassing digitalization, automation, and artificial intelligence (AI), has transformed work processes, skill requirements, and organizational structures across sectors (Kraus et al., 2021). In higher education, the adoption of Learning Management Systems (LMS), virtual laboratories, and data-driven decision-making has enhanced instructional delivery and administrative efficiency (Mhlongo et al., 2023). While these innovations create opportunities for enhanced productivity and remote collaboration, they also risk displacing workers in routine roles—many of which are historically female-dominated (Brussevich, 2018).

In developing contexts, the uneven distribution of technological resources exacerbates skill gaps, particularly among women, who face structural barriers to digital training and STEM engagement (Acilar & Sæbø, 2021). Without targeted interventions, technology adoption can reinforce rather than reduce inequality, as seen in recruitment algorithms that perpetuate existing biases when trained on discriminatory datasets (Al-Zahrani, 2024).

Gender Discrimination in the Workplace

Gender discrimination refers to inequitable treatment based on gender, manifesting in recruitment, pay, promotion, and workplace culture (Hing et al., 2023). In higher education, women often encounter systemic obstacles such as exclusion from leadership positions, limited access to research funding, and disproportionate administrative workloads (Alshdiefat et al., 2024). Cultural expectations regarding caregiving further constrain women's career progression, reinforcing occupational segregation (Makama, 2013).

In Nigeria, gender bias remains pervasive despite progress in women's educational attainment (Adeleke & McSharry, 2022). Women are underrepresented in STEM, face wider pay gaps, and experience barriers to promotion (Osiki, 2022). Discrimination is also institutionalized through policies and informal norms that prioritize male leadership styles and undervalue women's contributions (Raheem & Garuba, 2017).

Intersection of Technology and Gender Inequality

The convergence of technological change and gender inequality produces what some scholars term "compound disadvantage," wherein women not only face pre-existing discrimination but are also excluded from the benefits of technological innovation (Osiki,2022). In polytechnics, the shift toward digital learning, automated processes, and STEM-focused curricula has placed a premium on technical competencies—fields in which women remain underrepresented (Kraus et al, 2021).

Polytechnics in South-West Nigeria, though central to vocational and technical education, reflect broader societal inequalities: women constitute a minority of staff in STEM-related departments and senior administrative roles (Agbaje et al., 2021). Institutional culture,

inadequate gender-sensitive training, and limited mentoring opportunities hinder women's ability to adapt to technological change (Lawrence, 2024). As a result, technology adoption may unintentionally entrench gendered divisions unless accompanied by equity-focused reforms.

METHODOLOGY

Research Design

Descriptive design was employed for this study. This research design was considered appropriate due to advantages of identifying attributes of a large population from a group of individuals which is what is required for the study that seeks to examine the impact of technological revolution and gender discrimination on women unemployment opportunities in Polytechnics in South-west Nigeria.

Population of the Study

The target population for this study comprised academic and administrative staff in Nigerian polytechnics, with a particular focus on female employees in federal, state, and private institutions within the six states of South-West Nigeria—Lagos, Oyo, Ogun, Osun, Ondo, and Ekiti. The polytechnics used in this study includes: Federal Polytechnic Ede, Federal Polytechnic Ile-Oluji, The Polytechnic Ibadan, Moshood Abiola Polytechnic, Lagos City Polytechnic and Crown Polytechnic Ado-Ekiti. These institutions represent a diverse array of organizational structures, technological infrastructures, and gender dynamics, offering a rich environment for comparative analysis.

Sample Size and Sampling Technique

A total of 420 respondents were selected for the quantitative strand of the research using a stratified random sampling technique. The strata were defined by state, type of institution (federal, state, private), and role (academic vs. administrative). This technique ensured a balanced representation of the study population and enhanced the generalizability of the findings across different categories of polytechnics.

For the qualitative strand, 24 female employees were selected purposively based on their years of experience, rank, and willingness to share their insights. This included both academic staff (lecturers, technologists) and non-academic staff (administrators, ICT officers). The sample size was determined by data saturation—the point at which no new themes emerged from subsequent interviews (Guest, Bunce, & Johnson, 2006).

Data Collection Instrument

Quantitative data was collected using a structured questionnaire, which was developed based on themes derived from the literature review and aligned with the study's objectives and hypotheses. The instrument included both closed-ended and Likert-scale questions and was divided into the following sections:

Section A: Demographic information (gender, age, position, years of experience, etc.)

Section B: Exposure to technology and digital tools

Section C: Perceptions of technological change and its impact on employment

Section D: Experiences of gender discrimination in tech-heavy departments

Section E: Institutional culture and support mechanisms

The questionnaire used Likert scale response modes of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The questionnaire was pretested with 30 respondents in two polytechnics outside the study area to assess clarity, reliability, and internal consistency. The Cronbach's Alpha coefficient for the instrument was 0.84, indicating a high level of reliability.

Data Collection Procedure

Ethical clearance was obtained from relevant academic and institutional bodies and permission was secured from the management of participating polytechnics. Data collection was carried out over a three-month period across the six states.

Quantitative data were collected through on-site administration of questionnaires, with trained research assistants deployed to each institution. Respondents were assured of confidentiality and anonymity to encourage honest responses.

Data Analysis Techniques

Data collected for this study was analyzed using Statistical Package for Social Scientists (SPSS) version 26. Both descriptive and inferential statistics were adopted to analyse the data generated in the study. Descriptive statistics such as frequencies, means, and standard deviations were used to summarize demographic variables and general trends. The data analysis techniques for this study are frequency and percentage, mean and standard deviation, weighted mean and ranking, and independent t-test. While frequency and percentage were used to present socio-demographic data of respondents, frequency and percentage, mean, standard deviation, weighted mean, and ranking were used to answer research questions 1 to 7. Hypotheses 1 to 7 were tested with the use of an independent t-test. The hypotheses were tested at 0.05 level of confidence.

Inferential statistics included:

Chi-square tests to examine associations between categorical variables (e.g., gender and access to digital tools).

Independent samples t-tests to compare male and female responses on key items.

Multiple regression analysis to determine the predictive impact of technological change and institutional factors on women's employment opportunities.

All hypotheses were tested at a 0.05 significance level.

Ethical Considerations

All participants provided informed consent, and participation was entirely voluntary. The research adhered to the principles of confidentiality, anonymity, and non-maleficence. Sensitive issues particularly those relating to gender-based discrimination and harassment—were handled with utmost care to protect participants' privacy and emotional wellbeing.

Ethical approval was granted by the research ethics board of Osun State University, and all institutional protocols were strictly followed throughout the research process.

Validity and Reliability

To ensure validity, the questionnaire was given to the supervisor for thorough vetting and review. Each item on the questionnaire was critically examined to remove any form of ambiguity that might arise in the course of generating the questions and to determine its relevance to the purpose of the study. Pilot testing further refined the structure and language of the instruments. For reliability, statistical consistency was measured using Cronbach's Alpha, and inter-rater reliability was applied during qualitative coding to ensure theme consistency across analysts.

RESULTS

Demographic Information

Table 1. Distribution of Respondents by Polytechnics

Polytechnic	Frequency	Percent
Crown Polytechnic Ado-Ekiti	295	16.7
Federal Polytechnic Ile-Oluji	298	16.9
Federal Polytechnic Ede	298	16.9
Lagos City Polytechnic	292	16.6
Moshood Abiola Polytechnic	290	16.4
The Polytechnic Ibadan	291	16.5
Total	1764	100.0

Table 1 above shows that 295 respondents representing 16.7% of the respondents are from Crown Polytechnic, Ado-Ekiti; 298 representing 16.9% of the respondents are from Federal Polytechnic Ile-Oluji; 298 representing 16.9% of the respondents are from Federal Polytechnic

Ede; 292 respondents representing 16.6% of the respondents are from Lagos City Polytechnic; 290 representing 16.4% of the respondents are from Moshood Abiola Polytechnic and 291 respondents representing 16.5% of the respondents are from The Polytechnic Ibadan.

Table 2: ***Socio-demographic Data of Respondents***

Characteristics	**N**	**%**
Gender		
Male	375	21.3
Female	1389	78.7
Total	1764	100.0
Age		
Below 18	72	4.1
Between 18-25	454	25.7
25 and above	1228	69.6
No Response	10	.6
Total	1764	100.0
Marital Status		
Married	1145	64.9
Divorced	146	8.3
Widowed	64	3.6
Separated	71	4.0
Never Married	316	17.9
No Response	22	1.2
Total	1764	100.0
Educational Qualification		
Less than Secondary School	14	.8
Secondary School	81	4.6
NCE	9	.5
OND	4	.2
HND	13	.7
Bachelor's Degree	815	46.2
Master's Degree	535	30.3
Doctoral Degree	70	4.0
Others	173	9.8
No Response	50	2.8
Total	1764	100.0
Employment Status		
Casual/Part-Time	5	.3
Employed	1628	92.3
Self Employed	37	2.1
Unemployed	37	2.1
No Response	57	3.2
Total	1764	100.0

Religion		
Christianity	968	54.9
Islam	512	29.0
Traditional	26	1.5
Others	1	.1
No Response	257	14.6
Total	1764	100.0
Average Monthly Income (₦)		
10,000-99,000	784	44.4
100,000-200,000	696	39.5
201,000-300,000	129	7.3
301,000-400,000	38	2.2
401,000 and Above	33	1.9
No Response	84	4.8
Total	1764	100.0
Number of Year in Service		
Less than 10	707	40.1
10-20	733	41.6
21-30	218	12.4
31 and above	42	2.4
No Response	64	3.6
Total	1764	100.0
Socio-Economic Status		
Low	325	18.4
Middle	1019	57.8
High	379	21.5
No Response	41	2.3
Total	1764	100.0

No Response (missing)

Table 2 shows the socio-demographic data of respondents that participated in the study. In this study, females constitute the larger percentage (78.7%) of the distribution while 21.3% of the respondents were males. The age of the majority (69.6%) of respondents was 25 years and above and 64.9% were married individuals while 17.9% never married and 1.2% declined response to their marital status. In relation to educational qualifications, 46.2% had bachelor's degree, 30.3% had Masters' degree while the least academic qualification was those with less secondary school certificate and this group constitutes less than one percent of the total respondent. However, 2.8% of the respondents declined response to their academic qualification.

Distribution of the respondents according to their employment status showed that 92.3% were employed while 2.1% each indicated self-employed and unemployed. Also, while 0.3% was casual/part-time workers, 3.2% declined response to their employment status. Fairly more

than half (54.9%) of the respondents practice Christianity, 29.0% practice Islam, 1.5% practice traditional religion, 0.1% indicated others while 14.6% declined response. Among these respondents, the average monthly income in Naira was between 10,000-99,000, 39.5% also had an average monthly income of 100,000-200,000, 7.3% and 2.2% respectively had 201,000-300,000, and 301,000-400,000 while 1.9% had 401,000 and above. However, 4.8% declined response to their income status. As also shown in the distribution, 41.6% had between 10-20 years working experience, 40.1% had less than 10 years, 12.4% had between 21-30 years, 2.4% had 31 years and above while 3.6% declined response. In addition, 57.8% and 21.5% of the respondents respectively were middle and high socio-economic status while 18.4% indicated low economic status. Also, 2.3% of the respondents declined response.

Technological Advancement and Women's Employment

The result in Table 3 shows the impact of technological revolution on women employment in Polytechnics in South West Nigeria. Given the weighted mean score of 3.09, statements with mean values that are equal or greater than the weighted mean score are considered as the main impact in this result. As shown in Table 3, ranked first was that ''Technological advancements have positively affected job opportunities for women in South West Nigeria'' (M = 3.35, SD = 0.70). Also, 48.4% and 43.2% of the respondents respectively strongly agree and agree to this impact. This is followed by ''Technological skills are increasingly becoming necessary for women to secure employment'' (M = 3.20, SD = 0.71) and 35.4% and 51.6% of respondents strongly agree and agree respectively. Technological revolution has made a positive impact in closing the gender pay gap within the tech industry (M = 3.17, SD = 0.71) was ranked third and 33.2% and 52.6% of respondents strongly agree and agree respectively. There has been an increase in the number of tech-related job openings for women in recent years (M = 3.15, SD = 0.67) was ranked fourth and 29.1% and 58.6% of respondents strongly agree and agree respectively. Ranked fifth was Technological advancements have led to the creation of non-traditional job roles that are more accessible to women (M = 3.11, SD = 0.70) was ranked fourth and 28.7% and 55.6% of respondents strongly agree and agree respectively (Fig. 1).

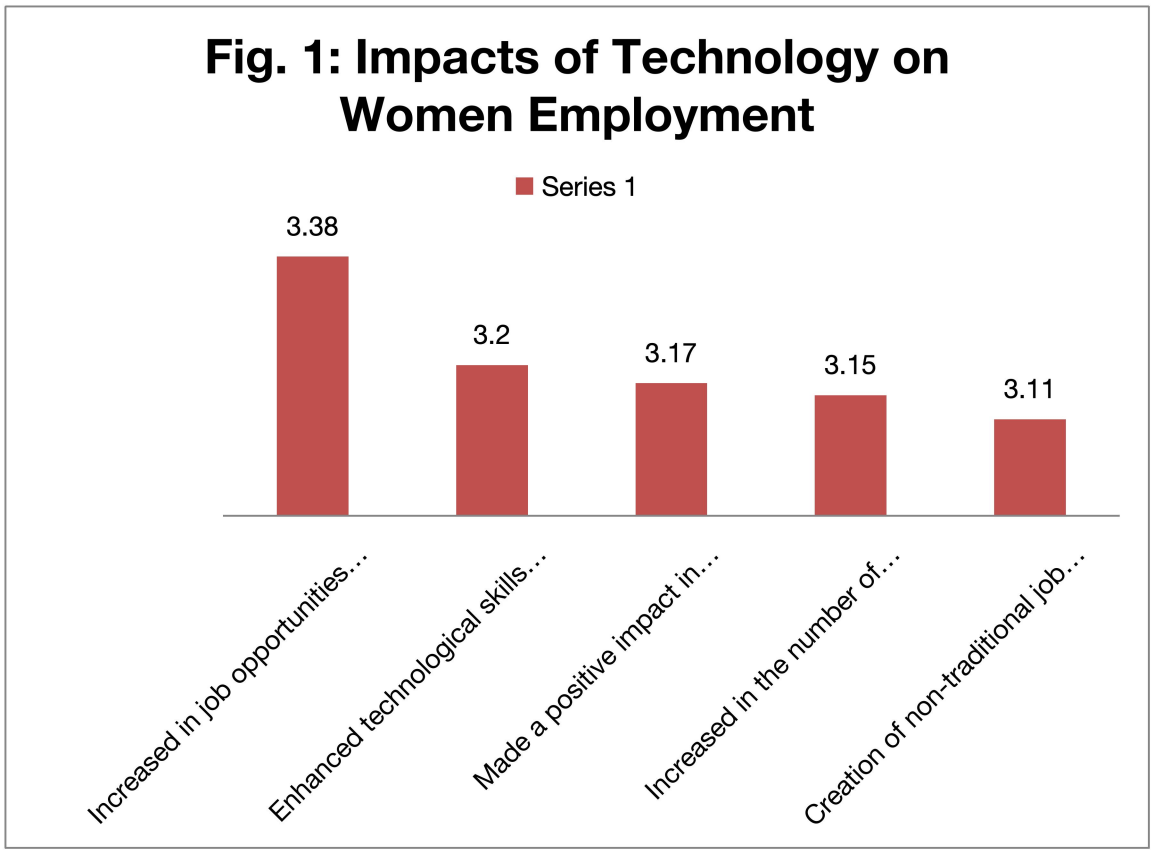


Fig. 1: Impacts of Technology on Women Employment
Series 1
3.38
3.2
3.17
3.15
3.11
Increased in job opportunities…
Enhanced technological skills…
Made a positive impact in…
Increased in the number of…
Creation of non-traditional job…

Table 3: ***Impact of Technological Revolution on Women Employment***

		SA		A		D		SD				
S/N	**STATEMENT**	F	%	F	%	f	%	F	%	***M***	***SD***	***Rank***
1.	Technological advancements have positively affected job opportunities for women in South West Nigeria	854	48.4	762	43.2	113	6.4	35	2.0	**3.38**	0.70	**1st**
2.	There has been an increase in the number of tech-related job openings for women in recent years	513	29.1	1034	58.6	186	10.5	31	1.8	**3.15**	0.67	**4th**
3.	Technological skills are increasingly becoming necessary for women to secure employment	624	35.4	911	51.6	191	10.8	38	2.2	**3.20**	0.71	**2nd**
4.	There are gender disparities in the distribution of job opportunities within the tech industry	485	27.5	827	46.9	370	21.0	82	4.6	2.97	0.82	8th
5.	Women are more likely to face discrimination than men in tech-related job interviews	358	20.3	928	52.6	365	20.7	113	6.4	2.87	0.81	10th
6.	Technological revolution has created new avenues for flexible work arrangements, benefiting women	456	25.9	882	50.0	355	20.1	71	4.0	2.98	0.79	7th
7.	Women are underrepresented in leadership roles within tech companies	384	21.8	944	53.5	354	20.1	82	4.6	2.92	0.77	9th
8.	Government policies and initiatives have been very effective in promoting women's participation in the tech workforce	430	24.4	997	56.5	293	16.6	44	2.5	3.03	0.71	6th
9.	Technological advancements have led to the creation of non-traditional job roles that are more accessible to women	507	28.7	974	55.2	248	14.1	35	2.0	**3.11**	0.70	**5th**
10.	Technological revolution has made a positive impact in closing the gender pay gap within the tech industry	586	33.2	928	52.6	215	12.2	35	2.0	**3.17**	0.71	**3rd**
	Weighted Mean									**3.09**		

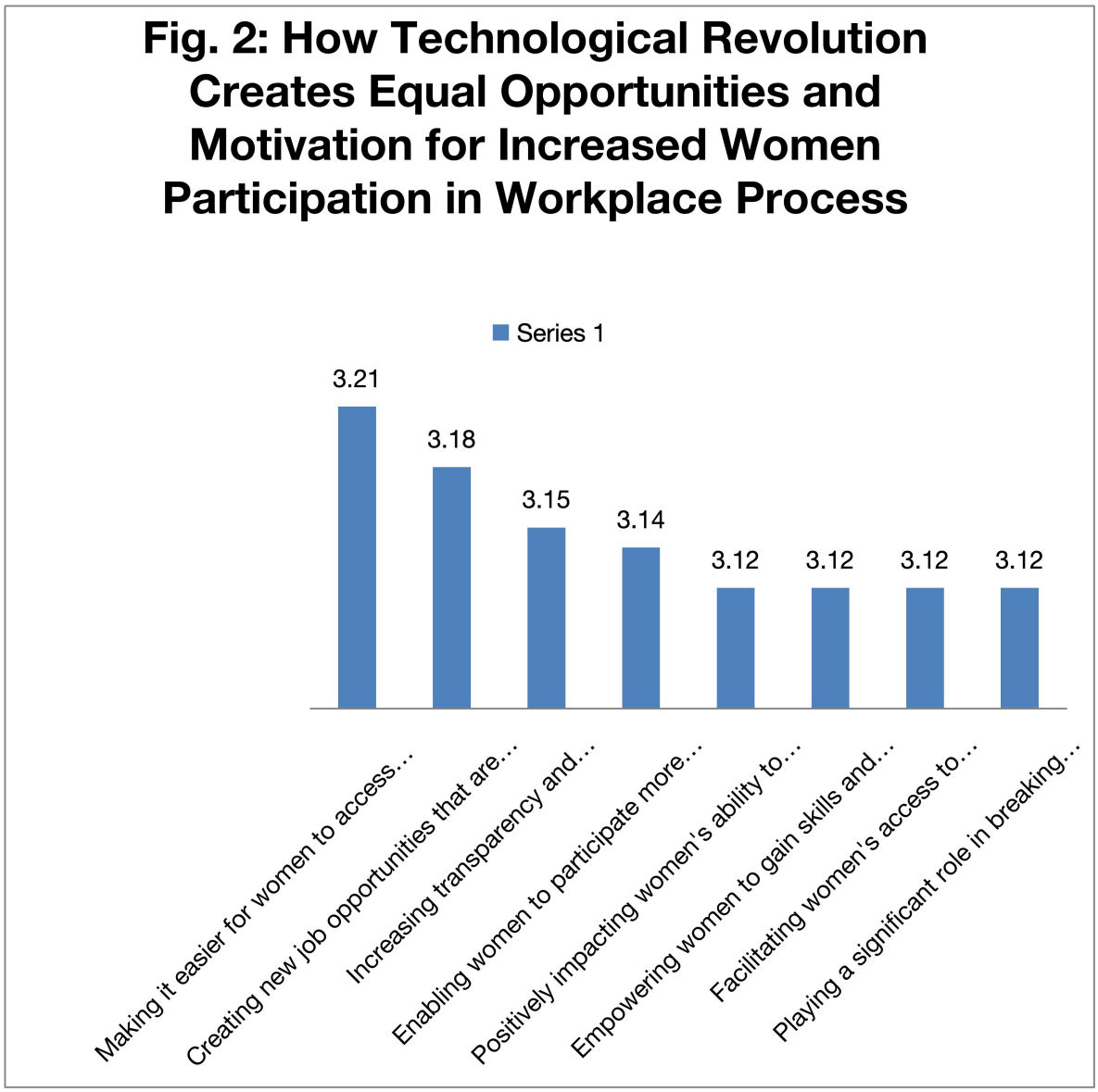
Equal Opportunity and Participation

The result in Table 4 shows how technological revolution creates equal opportunities and motivation for increased women participation in workplace process. Given the weighted mean score of 3.11, statements with mean values that are equal or greater than the weighted mean score are considered in this result. As shown in Table 4, the respondents ranked 'Technological advancements have made it easier for women to access job opportunities previously dominated by men'' first with mean of 3.21 and standard deviation of 0.66. Also, 33.4% and 54.8% of the respondents respectively strongly agree and agree with this statement. Ranked second was ''Artificial Intelligence and automation have created new job opportunities that are more inclusive and less biased towards any gender'' (M = 3.18, SD = 0.68) and 31.9% and 55.6% of respondents strongly agree and agree respectively with this statement. ''Technological innovations have led to increased transparency and accountability in workplace policies, promoting fairness and equality for all employees, regardless of gender'' (M = 3.15, SD = 0.68) was ranked third and 29.5% and 57.4% of respondents strongly agree and agree respectively. Virtual collaboration tools have enabled women to participate more actively in team projects, regardless of their geographical location (M = 3.14, SD = 0.67) was ranked fourth and 30.5% and 54.5% of respondents strongly agree and agree respectively. Four statements that were ranked fifth were: Flexible work arrangements facilitated by technology (e.g., remote work, flexible hours) have positively impacted women's ability to balance work and personal life responsibilities (M = 3.12, SD = 0.68) with 27.6% of strongly agree and 58.6% agree; Online education and training platforms have empowered women to gain skills and knowledge necessary for career advancement (M = 3.12, SD = 0.70) with 28.6% of strongly agree and 56.3% agree; The availability of online networking platforms has facilitated women's access to professional networks and mentorship opportunities (M = 3.12, SD = 0.69) with 28.5% of strongly agree and 57.3% agree; and Technology has played a significant role in breaking down traditional gender roles and stereotypes in the workplace (M = 3.12, SD = 0.67) with 28.5% of respondents that were strongly agree while 57.3% also agree with the statement.

As shown in Table 4, from the perspectives of the respondents, technological revolution has created equal opportunities and motivation for increased women participation in workplace process in terms of: making it easier for women to access job opportunities previously dominated by men; creating new job opportunities that are more inclusive and less biased towards any gender; increasing transparency and accountability in workplace policies, promoting fairness and equality for all employees, regardless of gender; enabling women to participate more actively in team projects, regardless of their geographical location; positively impacting women's ability to balance work and personal life responsibilities; empowering women to gain skills and knowledge necessary for career advancement; facilitating women's access to professional networks and mentorship opportunities and in playing a significant role in breaking down traditional gender roles and stereotypes in the workplace. The summary of this outcome is depicted in Figure 2.

Table 4: ***How Technological Revolution Creates Equal Opportunities and Motivation for Increased Women Participation in Workplace Process***

S/N	STATEMENT	SA		A		D		SD		*M*	*SD*	*Rank*
		F	%	F	%	F	%	F	%			
1.	Technological advancements have made it easier for women to access job opportunities previously dominated by men	590	33.4	966	54.8	190	10.8	18	1.0	**3.21**	0.66	**1st**
2.	Flexible work arrangements facilitated by technology (e.g., remote work, flexible hours) have positivelzy impacted women's ability to balance work and personal life responsibilities	486	27.6	1034	58.6	211	12.0	33	1.9	**3.12**	0.68	**5th**
3.	Online education and training platforms have empowered women to gain skills and knowledge necessary for career advancement.	505	28.6	994	56.3	229	13.0	36	2.0	**3.12**	0.70	**5th**
4.	Technology has helped in reducing gender bias in recruitment processes by introducing blind hiring techniques and AI-based selection tools.	482	27.3	1009	57.2	232	13.2	41	2.3	3.10	0.70	9th
5.	Virtual collaboration tools have enabled women to participate more actively in team projects, regardless of their geographical location.	538	30.5	961	54.5	238	13.5	27	1.5	**3.14**	0.69	**4th**
6.	The availability of online networking platforms has facilitated women's access to professional networks and mentorship opportunities.	502	28.5	1010	57.3	212	12.0	40	2.3	**3.12**	0.69	**5th**
7.	Technology has played a significant role in breaking down traditional gender roles and stereotypes in the workplace.	475	26.9	1056	59.9	201	11.4	32	1.8	**3.12**	0.67	**5th**
8.	Artificial Intelligence and automation have created new job opportunities that are more inclusive and less biased towards any gender.	563	31.9	980	55.6	189	10.7	32	1.8	**3.18**	0.68	**2nd**
9.	Technological innovations have led to increased transparency and accountability in workplace policies, promoting fairness and equality for all employees, regardless of gender.	520	29.5	1013	57.4	198	11.2	33	1.9	**3.15**	0.68	**3rd**
10.	Requirement to place men more than woman on employment lists in positions of eligibility	444	25.2	831	47.1	299	17.0	190	10.8	2.87	0.91	10th
	Weighted Mean									**3.11**		



Gender Discrimination in the Workplace

The result in Table 5 shows the respondents' perspective on the presence or otherwise of gender discrimination in the workplace. Given the obtained weighted mean score of 2.99, this falls in the threshold of Agree. In other words, the respondents agree that there was gender discrimination in the workplace. Specifically, 44.2% and 43.8% of the respondents strongly agree and agree respectively that sexual harassment is a common issue faced by women in the workplace (M = 3.25, SD = 0.84); 28.5% and 56.9% of the respondents strongly agree and agree respectively that women are often subjected to micro-aggressions and subtle forms of

discrimination (M = 3.05, SD = 0.84); 31.5% and 50.3% of the respondents strongly agree and agree respectively that policies in the workplace often favour men than women, (M = 3.05, SD = 0.84); 28.5% and 56.4% of the respondents strongly agree and agree respectively that stereotypes and biases influence hiring and promotion decisions (M = 3.03, SD = 0.86); 31.3% and 50.2% of the respondents strongly agree and agree respectively that gender discrimination is prevalent in today's workplace (M = 3.02, SD = 0.91); and 29.5% and 52.1% of the respondents strongly agree and agree respectively that Work assignments are sometimes based on gender rather than merit (M = 3.00, SD = 0.90).

As shown in Table 5, the majority of respondents agreed that there was gender discrimination in workplace and such discrimination was more pronounced in relation to sexual harassment of women, micro-aggressions and subtle forms of discrimination, workplace policies that favour men than women, stereotypes and biases influence hiring and promotion decisions, and work assignments that are based on gender rather than merit. The summary of this outcome is depicted in Figure 3.

Table 5: ***Gender Discrimination in the Workplace***

S/N	STATEMENT	SA		A		D		SD		*M*	*SD*	*Rmks*
		f	%	F	%	F	%	F	%			
1.	Gender discrimination is prevalent in today's workplace.	553	31.3	886	50.2	135	7.7	190	10.8	3.02	0.91	*A*
2.	Women are often paid less than men for the same work.	365	20.7	985	55.8	201	11.4	213	12.1	2.85	0.88	*A*
3.	Men are more likely to be promoted than equally qualified women.	372	21.1	986	55.9	199	11.3	207	11.7	2.86	0.88	*A*
4.	Women face obstacles in accessing leadership positions.	487	27.6	920	52.2	125	7.1	232	13.2	2.94	0.93	*A*
5.	Work assignments are sometimes based on gender rather than merit.	520	29.5	919	52.1	126	7.1	199	11.3	3.00	0.90	*A*
6.	Stereotypes and biases influence hiring and promotion decisions.	502	28.5	995	56.4	88	5.0	179	10.1	3.03	0.86	*A*
7.	Sexual harassment is a common issue faced by women in the workplace.	780	44.2	772	43.8	87	4.9	125	7.1	3.25	0.84	*A*
8.	Policies in the workplace often favour men than women.	556	31.5	887	50.3	160	9.1	161	9.1	3.04	0.88	*A*
9.	Women are often subjected to micro-aggressions and subtle forms of discrimination	502	28.5	1004	56.9	99	5.6	159	9.0	3.05	0.84	*A*
10.	I sometimes have to miss work due to pressing politics issues	448	25.4	883	50.1	186	10.5	247	14.0	2.87	0.95	*A*
	Weighted Mean									**2.99**		***A***

Key: *Mean: 1.00-1.40 = Strongly Disagree (SD), 1.45-2.40 = Disagree (D), 2.50-3.40 = Agree (A), 3.50-4.00 = Strongly Agree (S)*

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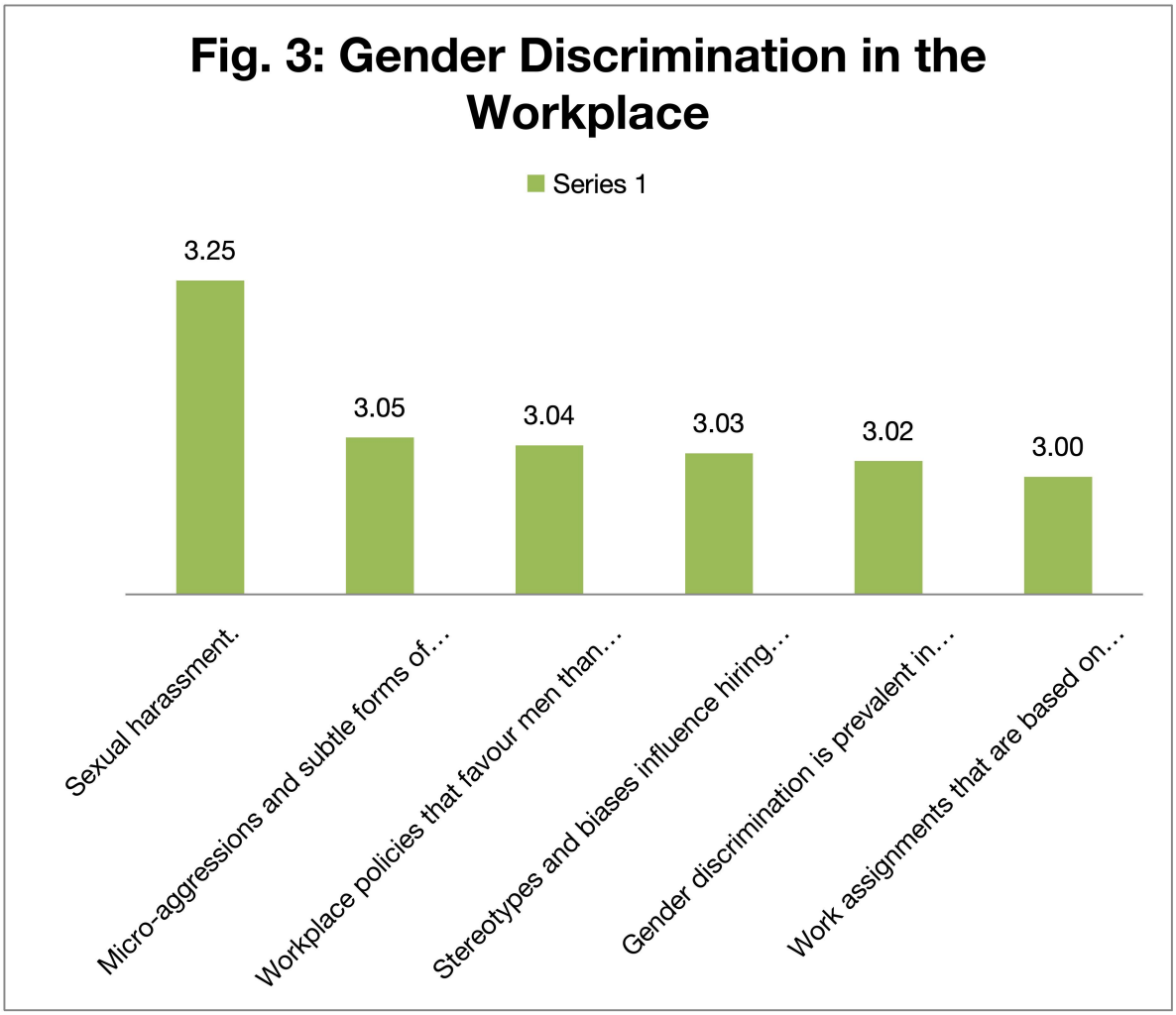

DISCUSSION

The discovery on the impact of technological revolution on women employment revealed an increase in job opportunities for women in South West Nigeria which is in line with the study of Abdulazeez (2019) who mentioned that women are beginning to take a firm foothold in the industry and show a steady rhythm which will in time outpace their male counterparts in the STEM field as it is happening in every other field of human endeavour. In addition, this study revealed that the impact of technological revolution on women employment brings about enhanced technological skills acquisition for women to secure employment which is an improvement when compared to Sorgner (2020) research that found out that there are pronounced gender differences in the effects of new digital technologies, with a strong variation between countries and industrial sectors.

This study also revealed that technological revolution on women employment made a positive impact in closing the gender pay gap within the tech industry. Meanwhile, Galván, (2021) in his study concluded that while technological advances can reduce the gender wage gap, this is not always the case and we should not expect technological change to eliminate gender wage disparities in and by itself because there are several factors responsible for this beyond just technological advancement.

Our study revealed an increase in the number of tech-related job openings for women in recent years as an impact of technological revolution on women employment which happens to be in line with the key findings from a study by Ogunsola, Awopegba, Mayor-Olabiyitan and Oladepo (2023) showed that technology skills training can positively impact employment and wage outcomes among females in African countries.

Prabha, Alok, Kumar and Singh (2023) argued that digital technologies significantly impact the ways of working in every sector and thereby results in them influencing technologies influence women's participation across all such types of work. This study aligns with this discussion as it reveals that technological revolution has brought about the creation of non-traditional job roles that are more accessible to women, and has also promoted women's participation in the tech workforce.

Martin and Barnard (2013) in their research on "The experience of women in male-dominated occupations" concluded that women in male-dominated occupations often work in conditions that do not cater for their unique needs because of covert and entrenched gender-biased organisational cultures. However, they opined that organisations can motivate women to remain in male-dominated work settings if they provide the women with tangible physical support and female-focused policies, visible career opportunities, challenges to entice their personal drive for achievement and different ways of recognising their success as gender balanced mentorship is vital for assisting these women to cope and persevere. This study however revealed that technological revolution has made it easier for women to access job opportunities previously dominated by men as a good number of jobs have been digitized and getting support has been made easier via online mentorship programs that can be assessed from wherever one is in the world.

CONCLUSION

This study has shown that technological advancement in South-West Nigerian polytechnics has not equally translated into employment gains for women. While digital innovations such as e-learning platforms, automation, and virtual laboratories have created opportunities for skill diversification and efficiency, these benefits are unequally accessed due to gendered barriers. Institutional cultures, discriminatory practices in recruitment and promotion, and unequal access to technological training collectively limit women's participation in emerging roles.

The evidence demonstrates that technology adoption alone is insufficient to close gender gaps in employment. Without deliberate equity-focused interventions, digital transformation risks amplifying rather than narrowing existing inequalities. This finding reinforces feminist theoretical arguments that structural reforms must accompany technological change to ensure inclusive outcomes.

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Recommendations

Polytechnics should design and implement targeted training programs for women, with flexible schedules to accommodate caregiving responsibilities. These programs should focus on both technical proficiency and leadership readiness in technology-driven roles.

In addition, mentoring networks should be established to pair early-career women with experienced female and male leaders in STEM and administrative leadership to build confidence, skills, and visibility.

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