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Digital Skills Possessed by Clothing and Textile Industry Workers and Existing Government Support in the Development of the Sector in Kogi State, Nigeria

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Abstract

This study aimed to investigate the digital skills of textile and clothing industry workers in Kogi State Nigeria. Three research questions guided the study. The area of the study was Kogi State North Central Nigeria. The population for the study consisted of 1000 clothing and textile industry workers in Kogi State. A sample of 202 workers was purposively selected to respond to questionnaire items. This study adopted a descriptive survey design. Digital Skills of Textile Workers (DSTW) was used as an instrument. The instrument was subjected to face and content validation by three experts from the Department of Education in Kogi State University Anyigba (K.S.U.). The reliability of the instrument was further subjected to pilot testing using 30 industries in Kaduna that were not part of the study. An internal consistency of 0.76 was obtained. The internal consistency was estimated using Cronbach alpha which yielded a reliability coefficient of 0.78**.** The data was analyzed using mean and standard deviation. The findings of this study revealed that the digital skills proficiency in the workforce of the textile and clothing industry in Kogi State is moderate (mean = 3.03). The findings also revealed that one of the challenges of textile workers was the cost of modern machines which made some workers resort to manual tools (mean = 3.44). The study established that government support of digital skills in the textile and clothing industry is moderate (mean = 3.12).It was recommended that the textile and clothing industry actively enhance digital skills by collaborating with government and educational institutions, actively engaging in planning, seeking loans for modern machinery, and enrolling in digital skills training. Also, the government should actively increase support for the textile and clothing industry in Kogi State to optimize the digitalization of their profession.

Keywords: Digital, skills, Textile, industry, Clothing

Introduction

Clothing and textile is a skill in Home Economics that deals majorly with training learners to create new designs of garments, developing and constructing patterns, weaving, dyeing, laundry, and storage. It is a field of study with various marketable skills that can ensure self-reliant employment (Achor 2014). Clothing and textile is a major branch of Home Economics Education that prepares students for self-reliance in creativity and artistic skills (Onuekwe, 2015). The relevance of clothing and textiles to the

needs of individual learners and the technological breakthrough of any nation has been widely reported. Jacqueline (2020) pointed out that clothing and textiles equip learners with reasonable skills to meet global clothing needs and contribute to Nigeria's economy's sustainable growth and development. There is a need for strategies to enhance traditional textile industries in Kogi State Nigeria.

The textile and clothing industry in Kogi State is grappling with several hurdles as it navigates the transition into the digital age. There is a notable gap in the adoption of digital skills within the textile and clothing sector. Many workers seem to lack the necessary training and expertise to effectively utilize digital tools and technologies in their operations. Industries that continue to rely on traditional production methods are often inefficient and less competitive compared to modern digital practices. This hampers productivity and innovation within the textile and clothing industries. There is a need for effective use of digital skills in different sectors and locations in these study areas like Dekina, Okene, Ibaji, and Idah to increase productivity. Karabasevic et al. (2021) stated that the textile and clothing industry (TCI) is a practical discipline that focuses on the various aspects of design, production, and marketing of textile clothing materials based on digitalization and investments in the ICT fields which are needed to overcome the problems in the textile and clothing sector. According to Terziev et al (2023), digital skills stand for Information and Communication Technologies. It also includes networks, the internet, and cloud systems. ICT has quite extensive usage in everyday life. Digital skills have to do with internet browsing, social media, electronic documents, communication and software requirements, and modern, machines for design. These are the main reasons why the practices of ICT, together with its subdomains, are constantly evolving in the textile and clothing industries. Oye (2019) defined digital skills as a game that qualifies as a changer for textile and clothing manufacturing. By unlocking new levels of efficiency and embracing automation, data analytics, and artificial intelligence, textile professionals can optimize operations. They can also enhance product quality, and improve customer experience, including the use of new knitting machines. Machines create knitted fabrics in large swaths of material instead of long strips that are looped and sewn together. Pleating can now be done solely by machines instead of laborers. Olaosebekan and Lawani (2020) stated that instead of using workers, machines may now perform all the pleating. ICT investments are necessary to address issues in the apparel and textile industries.

Yasheva et al, (2022) confirmed that investments in the fields of ICT are needed to overcome the problems in the textile and clothing sectors, and e-commerce should be made available and developed for the employees to obtain new digital skills, competencies, and benefits. This implies that digital skills, from an academic perspective, will encompass many areas in terms of computer technology, networking, information exchange, data analysis, and the use of modern machines. Adilo et al (2023)

mentioned that the massive escalation in global digital technology led to drastic changes in the textile and clothing sectors has contributed to the dynamics of social changes in every society with sustainable economic growth worldwide. Anerua and Azonuche (2010) suggested that the government should strengthen the use of ICT in the textile and clothing industry and organize a standard market for integrated international and national development programs, which will play a paramount role in cooperative tailoring societies and improve rural broadloom weaving programs. Mohammed and Uddin (2018) confirmed that government intervention to support the use of ICT in textiles and clothing is significant to create productive and small-scale employment in textiles, increasing the domestic supply of fibres, leather, and latex to feed the local textile and clothing industry, keep pace with rising demand for its products, and expand textile exports to ensure an increase in national economic.

Every culture experiencing sustainable economic growth may experience social transformations as a result of the significant advancements in global digital technology that have drastically altered the textile and apparel industries. There is a need to investigate the adequateness of government support in terms of infrastructure, policies, and resources to facilitate the integration of digital technologies into manufacturers' operations. Also, addressing these issues may add to measures for strategic initiatives aimed at enhancing digital skills, promoting innovation, and ensuring sustainable development among the industry workers in Kogi State.

Objective of the study

The main purpose of this study was to investigate the digital skills possessed by clothing and textile industry workers and existing government support in the development of the sector in Kogi State, Nigeria. Specifically, the study determined the:

1. level of digital skills proficiency possessed by textile and clothing industry workers in Kogi State, Nigeria;
2. primary challenges faced by textile and clothing industries in adopting digital technologies and
3. extent of government support facilitates the development of digital skills in the textile and clothing in the study area.

Methodology

Research Design: This study adopted a descriptive survey research design since the study intended to use the findings from a representative sample of industries in Kogi State to generalize for all the industries.

Population for the study: The population for this study consists of 1000 clothing and textile workers in ten industries in Kogi State, Nigeria. These are Kogi State Textile Mill Lokoja, Nigeria Textile Mill Okene, African Textile Manufacturers Kabba, United Textile Industry Lokoja, Kogi Cotton Ginning Lokoja, Texfax Textile Idah, Supreme Textile Okene, Arewa Textile Kabba, Funtua Textile Lokoja and Kam Industries Lokoja. The data was obtained from a direct inquiry from the industry association and government agency in the state.

Sample and Sampling Techniques: The sample for this study was 202 textile industry workers. A predetermined proportion (20%) of the population was randomly selected from all the textile and clothing industries in Kogi State. This proportion was considered adequate to represent the population. This gave a sample size of 200 respondents. An equal proportion (20) of the respondents were selected from all 10 industries. Additional two respondents were added to cater for non-compliant participants. This gave a total of 202 respondents.

Instrument for Data Collection: A questionnaire titled "Digital Skills of Textile Workers Questionnaire (DSTWQ)" was used for data collection. The questionnaire was divided into four sections (A, B, C, and D). Section A contains items on the demographic data of the respondents while Section B was used to obtain data on the level of digital skills proficiency in the workforce of the textile and clothing industry. Section C contained items on the primary challenges hindering the adoption of digital technologies and Section D was used to obtain data on the extent of government support in facilitating the development of digital skills. The response options for Sections B, C, and D were rated on a five-point Likert scale; 5 = Very high Level (VHL), 4 = High Level (HL), 3 = Moderate Level (ML), 2 = Low Level (LL) and 1 = Very Low Level (VLL).

Validation of the Instrument: The instrument was subjected to face and content validation by three experts from the Department of Education at Kogi State University Anyigba. The comments from the validators were used to enhance the quality of the instrument. All corrections and suggestions of the experts were made to improve the quality of the instrument. The reliability of the instrument was further subjected to pilot testing using 30 industries in Kaduna state that were not part of the study. An internal consistency of 0.78 was obtained using the Cronbach alpha reliability test.

Method of Data Collection: The data was collected by administering 202 copies of the questionnaire to the respondents with the aid of four research assistants selected from the communities where the industries were located. Collection of data was on the spot and a 100% return of the filled questionnaire was achieved.

Statistical and Data Analysis: Data was analyzed using means and standard deviations. The decision rules for interpreting results are as follows: a mean score of 4.50-5.0; Very High Level, 3.50 - 4.4; High Level, 2.50 - 3.49; Moderate Level, 1.50 - 2.49; Low Level, and 1.00-1.49; Very Low Level. Objective 2 was analysed with the following decision rules; 3.80-5.0 (Major Challenge), 3.0 – 3.79 (Minor Challenge), and < 3.0 (Not a challenge).

Results

Research Objective 1: Level of digital skills proficiency in the workforce of the textile and clothing industry in Kogi State, Nigeria

Table 1 shows the level of digital skills proficiency possessed by the textile and clothing industry workers in Kogi State, Nigeria. The respondents showed a high level of proficiency in sharing styles through YouTube (3.90) and the use of

a computer database to store photos (3.80). Other skills possessed at a moderate level were the use of Google to download styles (3.10), advertising clothing designs through Face book (3.06), and the use of computers for graphic styles (3.30). A grand mean of 3.03 was obtained. The grand mean score of 3.03 shows that on average, the digital skills proficiency in the workforce of the textile and clothing *industry* is moderate.

Table 1: Level of digital skills proficiency in the workforce of the textile and clothing industry in Kogi State

ITEM	Mean	Std	Remark
I use the computer for graphics styles to design my cloth styles always	3.30	1.20	Moderate
I advertised my clothes design through Facebook messenger	3.06	1.28	Moderate
I use Google to download modern designs and update my knowledge of latest styles	3.10	1.21	Moderate
I use computer database to store textile and clothing photos for immediate and future use	3.80	1.35	High level
I share my textile and clothing styles through YouTube with my counterparts frequently	3.90	1.30	High level
GRAND MEAN	3.03		Moderate

Research Objective 2: Primary challenges hindering the adoption of digital technologies in the textile and clothing industry.

Table 2 shows the challenges hindering the adoption of digital technologies among textile workers. Textile workers considered all the challenges as major. These include the challenges in accessing computer skills (3.90), lack of access to modern machines (3.76), lack of knowledge of digital skills (3.76), acquiring modern machines (3.71), and finance to purchase computers (3.71).

Table 2: Challenges hindering the adoption of digital technologies in textiles industry

ITEM	Mean	Standard deviation	Remark
Lack of access to modern machines for textile and clothing activities	3.76	**1.01**	Major
Lack of digital skills knowledge as such I use traditional methods of advertising my product	3.76	1.02	Major
limited finance to acquire computers to promote textile and clothing product	3.70	1.10	Major
Lack of access to digital skills training to facilitate production of textile and clothing	3.90	1.03	Major

High cost of modern machine resulted in use manual tools in textile and clothing industry	3.70	1.02	Major
GRAND MEAN	3.44		

Research Objective 3: Extent that government support facilitates the development of digital skills in the textile and clothing industry in Kogi State, Nigeria.

Table 3 shows the mean and standard deviation of respondents' opinions on the extent of government support of digital skills in the textile and clothing industry in Kogi State and a grand mean of 3.12 was moderate level. This also implies that clothing and textile owners have moderate government support of digital skills (3.13), providing modern machines (3.03), financing to purchase the computer (3.3), and access to computer skills (3.13) to enhance the textile and clothing industry in Kogi State, Nigeria.

Table 3: Extent of government support in the development of digital skills in textile and clothing

ITEM	**n=202 Mean**	**Std.**	Remark
Kogi state Government organize computer aided design workshop textile and clothing industry	3.20	1.02	Moderate
Kogi State Government provides financial support to acquire modern machines for textile and clotting work	3.03	1.13	Moderate
Kogi State Government provides us with computers to enhance storage of textile and clothing data	3.06	1.14	Moderate
Kogi State Government provides us loan to boost our textile and clothing industry	3.16	1.02	Moderate
Kogi State Government launched an online digital market to advertise our textile and clothing products	3.13	1.30	Moderate
GRAND MEAN		3.12	Moderate

Discussion of Findings

The study investigated the digital skills possessed by clothing and textile industry workers and existing government support in the development of the sector in Kogi State, Nigeria. The findings showed that the level of digital skills proficiency of textile workers was moderate. This implies that textile workers in the state are not yet adequately skilled in the use of modern technologies such as modern machines to facilitate textile and garment production. Chidera (2021) stated that the digital skills possessed by industry workers are not sufficient to help them meet the ever-changing demands of contemporary society who are continually conscious of new products.

The findings on the challenges hindering the adoption of digital technologies among textile workers in the study area include difficulty in acquiring modern machines, finance to purchase the computer, and access to computer skills. Karabasevic (2021) evaluated the green ICT adoption in the textile industry by using bipolar fuzzy and found out that these challenges could affect the adoption of technologies. When these technologies are not adopted there will be inefficiency, effectiveness, and inadequate skills which result in low productivity. This is in line with the observation of Terziev et al. (2023) who pointed out the need for improving digital skills in the textile and clothing industries to solve these challenges. Technology has improved weaving, dyeing, finishing, and printing processes making fabric production more efficient, cost-effective, and environmentally friendly.

Further findings from the study indicate that the Government of Kogi State provides moderate support for the acquisition of digital skills of textile workers. These findings are in line with the opinion of Kanupriya (2021) who mentioned that the massive escalation in global technology led to drastic change in the textile and clothing sector has contributed to dynamics of social changes in every society with sustainable economic growth worldwide extension organization in its wide range of structures and multiplicity of functions. Alam et al. (2013) suggested that the government should strengthen the use of ICT in textile and clothing industry extension services to organize standard markets for integrated international and national development programs which will play a paramount role in settling cooperative tailoring societies and improving rural broadloom weaving programs. The finding also is in agreement with Mohammed and Uddin (2018), who confirmed that government intervention to support use of ICT in textile and clothing is to create productive and small-scale employment in textiles, increased the domestic supply of fibers, leather, and latex to feed the local industries, and keep pace with rising demand for its products and, expand textile exports for ensuring an increase in national economies. According to Mohammed and Uddin (2018) government assistance for the use of digital technology in textiles and clothing will improve the local supply of fibers, leather, and latex, as well as generate small-scale and profitable jobs in the textile industry. This meant that macro- and micro-economic policies of the 1980s, the fifteen-month economic emergency plan of 1985, and the Structural Adjustment Program (SAP) of 1986, which established more improved packages for textile development were just a few examples of how the government continued to provide funding for local producers in both urban and rural areas after 1979. In line with this, Quarcoo, Komla, and Senayah (2022) stated that the Better Life Program (1987), the Family Support

Program (1994), the Poverty Alleviation Program (2000), the Small and Medium-Scale Enterprises Development (2007), the Women-In-Agriculture Program (WIA), and other developmental outreach programs in Nigeria, as well as those implemented by international organizations such as the United Nations Development Programme (UNDP) and the United Nations International Children Education Fund (UNICEF), among others, also foster textile innovations but do not prioritize digital skills and appropriate use of ICT in textile and clothing industry. This is also in line with this study which adopted the digital economy theory propounded by Tapscott (1996) which stated that the digital economy is an amalgamation of digital computing and economy and is an umbrella term that describes how traditional textile-and-clothing economic activities (production and distribution,) are being transformed by the internet and World Wide Web technologies. The theory facilitated digital tools and platforms, empowered industries to adapt to evolving market trends, enhanced competitiveness, and drove economic growth within the nation.

Conclusion

The study concluded that there is not yet an adequate level of digital skills proficiency in the workforce of the textile and clothing industries and moderate government support in Kogi State. The use of traditional methods of production and advertising due to the high cost of modern machines, limited finance, and inadequate digital skills resulted in manual tool usage in the textile and clothing industries. Manufacturers in the sector face inadequate government support in terms of infrastructure, policies, and resources to facilitate the integration of digital technologies in their operations. Addressing these issues underscores the necessity for strategic initiatives aimed at enhancing digital skills, promoting innovations, and ensuring sustainable development within the industry.

Recommendations

The following recommendations were made from the findings of this study

1. Textile and clothing industry workers should embrace digital skills and strengthen collaboration with government, schools, and non-governmental organizations to acquire more knowledge of digital skills to boost textile and clothing industry programs.
2. With the high level of challenges textile and clothing industry workers should engage in planning and decision-making processes to take an active role in the provision of modern machines, seek loans from the government, and enroll in digital skills acquisition.
3. The government should increase its support to the textile and clothing industry in Kogi State to achieve optimal growth in the digitalization of their sector

References

Abamba, C. D., Eradajire, B. N., & Ogbanu, D. N. (2022). Sustainable income generation through entrepreneurship in clothing and textiles after retirement. *Nigeria Journal of Home Economics NJHEC*, *10*(7), 287

Achor, N.C. (2014). Enhancing creativity in entrepreneurship through Home Economics in Nigeria. *American International Journal of Contemporary Research* 4(6), 104 -107

Chidera, V. (2021). Basic pattern drafting techniques and fashion designing, advantages, tools and development. Retrieved (June, 3023) from https//typsinfluenceer.com.ng/basic-

pattern-drafting-techniques-and-fashion-designing-advantages-tools-and-equipment/

Azonuche. J. E., (2020) Revitalizing Home Economics education in tertiary institutions in Nigeria through ICT use for skill acquisition for global relevance. *Journal of Educational and Social Research,*10(6) 332-340.

Jacqueline, O. (2020) International challenges. The experiences of clothing and textiles teachers in some selected topics. *Journal of Education and Practice,*11(22); 62-66.

Karabasevic D., Radanov P., Stanujkic D., Popovic G., Predic, B. *(2021) Going green: Strategic evaluation of green ICT adoption in the textile industry by using bipolar fuzzy MULTIMOORA method* 72 (1), 3 – 10, https://doi.org/10.35530/IT.072.01.1841, ISSN: 12225347

Mohammad. N. I. & Dabbagh, M.A. (2021). The effectiveness of incorporating technology in the classroom as an attractive tool to teach clothing and curriculum and the concept of sustainability. *Open Journal of Social Sciences* (9) 279 -292.

Mohammed, Z. A. & Uddin M. R. (2018). "Use of information and communication technologies by farmers in receiving agricultural information", *Research in Agriculture Livestock and Fisheries 6* (1).71-78.

Olaosebekan, V. B., & Lawani, D. O. (2020). Development of clothing education programme for curbing immodest clothing practices of youths in Colleges of Education in Northeast, Nigeria. *International Journal of Innovative Social & Science Education Research*, 8(3), 44–56.

Onuekwe, E.M. (2015) Influence of study habits on the academic achievement of students in Home Economics in junior secondary schools in Enugu State. *International Journal of Innovation Education Research,*3 (3), 15 -22.

Oye, G.A. (2019). "Assessment of technology utilization among rice farmers in southwestern Nigeria", [*Unpublished Ph.D. Thesis],* Obafemi Awolowo University, Ile-Ife, Nigeria, 268.

Parker, C., Scott, S., & Geddes, A. (2019). Snowball sampling. *SAGE research methods foundations*.

Quarcoo, R., Komla, A. M. E., &Senayah, W. K. (2022). Available teaching and learning resources for the implementation of clothing and textiles curriculum in senior high schools in Ghana. *Literacy Information and Computer Education Journal*. Infonomics Society, 13(1), 3678–3683. https://doi.org/10.20533/licej.2040.2589.2022.0485

Terziev, A., Hertleer, C., Malengier, B., Dimov, A., Ercegovic Razic, S., Saeed, H., & Laudoni, S. (2023). Improving your digital skills in the textile and clothing industry. In "*The 18th Romanian Textiles and Leather Conference"– CORTEP'2022* (pp. 462-466). Sciendo.

Yasheva G.A., Slonimska M.A., Vailunova Y.G. (2022). Textile cluster in the Vitebsk region: Identification and directions of formation in the conditions of the economy digitalization, [*AIP Conference Proceedings*], 2430, art. no. 040009, https://www/DOI.10.1063/5.0077276, ISSN: 0094243X.