



## VIABLE ENTREPRENEURSHIP IN NIGERIA: THE ART OF MANUAL PRINTING IN TEXTILE DESIGN

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### Abstract

*Attractions to most fabrics are mostly based on the surface designs. In textile design, some techniques are employed to beautify fabrics for instance; dyeing, printing, painting, embroidery, weaving, and other manual and industrial finishes. Most of these could be achieved manually, for example: by printing on fabrics. A piece of acquired knowledge in textile printing is quite encouraging and could be practised for wealth creation. It could also help some become employers of labour by setting up small cottage industries. This study is predicated on the fact that manual printing offers entrepreneurship and skill acquisition potentials which enable people to be self-reliant and self-employed. This has not been given adequate awareness especially, among the youth and scholars. This paper showcases how this particular technique in textile design could be practised by working on some samples of printed fabrics in the studio and also documents how a simple printing studio could be set up. This is qualitative research. It employed studio exploration as the research design and photography as the research instrument to collect some data and adopted the theories of diffusion of Innovation, social network, institutionalism and creative economy for analysis. This study found that printing in textiles has been identified as an art that offers great skills that could stamp out poverty when practised professionally. It recommends that the printing of fabrics should be given more attention since some of the textile industries in Nigeria have gone moribund. Thus, this paper concludes that simple inexpensive printing studios be set up as cottage industries by designers and artists instead of waiting to work in a fully automated industry.*

**Keywords:** entrepreneurship, manual textile printing, textile design, studio textiles, printing process

### INTRODUCTION

Fabrics displayed for sale are known to be embellished with different designs either applied on their surfaces after construction or embedded in their woven structures during construction. For years, it has been observed that without various designs on fabrics, people will be bored with wearing particular clothing. One cannot put an exact date on clothing's appearance, but most likely happened between 100,000 and 500,000 years ago (Spencer 2023). The first purpose of clothing was to keep humans warm and protect them from the elements of nature. He further noted that with time, clothing started acquiring other purposes as well becoming status, gender and later wealth

symbols. Designs on textiles could also be used for beautification, identification, self-expression, conveyance of some messages, display of one's thoughts, cultural significance, political views, demonstrations, agitation for one's rights, solidarity, allegiance and to showcase one's status and others. For thousands of years, human beings have worn flamboyant decorated textiles. Clothes worn during the Elizabethan era (1558-1603CE) became much more colourful, elaborate and flamboyant than in previous periods (Cartwright, 2022). Textile fabrics would not have been quite decorative and attractive without surface designs which textile printing is among.

Textile printing refers to creating beautiful designs and patterns on textile surfaces using printing techniques. Printing on textiles, which are materials made from natural or man-made fibres, has been around since the 3rd Century B.C. People create printed textiles to produce attractive designs on fabric (Thaxton, (ND), these designs form artistic arrangements or motifs in a variety of colours and patterns. According to him, textile printing is the process of applying colour to a piece of cloth in definite arrangements or designs. On the printing of fabrics, the colour is fixed to the cloth, to be colourfast. Textile printing is connected to dyeing but in dyeing, the whole fabric is uniformly covered with one colour, mostly, the patterns on the dyed fabrics are not well defined; whereas in printing one or more colours are applied to it in certain parts only, and in sharply defined patterns (Knecht and Cole, 1911). This printing may involve repetitive patterns into lengths of fabric or it might be a single defined design. For centuries, people of different tribes in the world have engaged in the printing of textiles as a family profession or personal job. They have used this technique to produce fabrics which could be sold for financial gains.

In Africa, the origin of printed fabric and its popularity, date back to the mid -1800s when a Dutch company now named Vlisco traded it in West Africa's coastal towns and since then the fabric has been a mainstay of African fashion Kuwonu (2020). Many textile industries in Africa are into ginning, spinning, weaving and finishing of textile goods. Some of those textile industries have gone comatose leaving only a few. For instance, the textile industry in Nigeria used to be the largest employer in the country and has long been a key player in the country's manufacturing sector (Kohan Textile Journal, 2022). Before 1997, Nigeria had the second largest textile industry in Africa after Egypt with over 250 active factories, but of recent only but fewer than 10 are still standing to date and this was due to some factors such as insufficient power supply, non-availability of black oil to run the engines, contradictory government policies, extensive smuggling of imported textiles, penchant for foreign textiles, influx of imitation and cheaper wax-prints, insecurity and other factors. The textile sector ceased to be a notable contributor to foreign exchange profits and employment generation in Nigeria (Kohan Textile Journal, 2022). Textile manufacturing in Nigeria was one of the most vibrant industries generating employment and contributing to GDP. It consists of ginneries and textile mills producing wax prints, fancy printed cloth, dyed fabrics and various indigenous hand-woven fabrics. The industry has not shown signs of significant growth and potential in recent years. They are supposed to promote high-quality traditionally designed fabrics as "Made in Nigeria" to niche markets, especially internationally.

Recently, the immediate past president of the National Union of Textile Garment and Tailoring Workers of Nigeria (NUTGTWN) disclosed that 90 percent of textile products in Nigerian markets today valued at \$4 billion are imported into the country annually. He mentioned this at the opening

session of the just concluded 13th National Delegates' conference of the union in Abuja and further called on the Federal Government to initiate policies aimed at reviving the moribund textile industries to create 2 million jobs and as well reduce over \$4 billion import bill incurred on textile and apparels industry (Vanguard News (2024) & Kay, 2024). Kay 2024, further noted that the industry keeps on experiencing low patronage, particularly from government agencies and parastatals despite the Federal government's Executive Order 003 which mandates Ministries, Departments and Agencies (MDAs) of government to spend more of their budgets on locally produced goods. Referencing South Africa's clothing and textile sector which experienced a hiatus due to a lack of local patronage and dumping of imported textile materials (used clothing), he however noted that because of conscious efforts on the part of the South African government through "Buy South Africa" campaign, the textile and clothing sector has been revived with many jobs created. Meanwhile, also speaking at the conference, the Permanent Secretary at the Ministry of Industry, Trade, and Investment, Amb. Nura Rimi expressed the desire of the government to revive the sector to its revenue-generating status.

The Nigerian textile industry has continued to struggle as the importation of textile products into the country increased by 106.7 percent over a period of four years from N182.5 billion in 2020 to N377.1 billion in 2023, despite several intervention programmes to boost the sector over the years. Available data from the National Bureau of Statistics (NBS) shows a consistent rise in textile imports from 2020 when it was N182.5 billion, N278.8 billion in 2021, N365.5 billion in 2022, and N377.1 billion in 2023. The Central Bank of Nigeria (CBN) has implemented various intervention programs for the sector over the years, including financial support, training initiatives, and foreign exchange restrictions on textile imports at the official exchange market. But all of these seem not to have any positive impact on the sector. Nigeria possesses significant potential in the textile and apparel industry, with a rich history of textile production and a large domestic market. The sector is capable of creating employment opportunities, promoting industrialization, and contributing to the nation's economic growth. Kolawole (2024) is of the same view as Kohan Textile Journal 2022, who observed that during the 1970s and early 1980s, Nigeria boasted over 180 textile mills, employing more than one million Nigerians but more than 90 percent have gone moribund.

Nevertheless, in the absence of textile industries where sophisticated machines are employed for the production of textile goods, manual techniques of printing are taught in higher institutions of learning and some other establishments. This enables the progress and sustainability of manual printing on textile materials and also encourages some interested persons who might wish to practice this art of printing on textiles as a profession. The practice of manual printing has proven to be an art that offers worthwhile entrepreneurship in that people could set up printing studios or cottage printing industries to become self-employed and employers of labour. This act will surely reduce the number of unemployed youths in the labour market. This study observed that the artists/designers that engage in this practice are quite few and opines that if some textile artists or designers could engage in this, perhaps it could help to assist the textile printing industries which are few in Nigeria and also offer employment to some unemployed youths. Instead of those unemployed youths roaming about the streets engaging in one unscrupulous act or the other, they could be assisted by introducing them to the art of textile printing by professionals. They could learn and

practice it and make a living out of it. Thus, this study utilizes the Akwete-Igbo woven motifs samples (Chudi-Duru, 2017) and Uli traditional painting motif symbols of the Igbo as design motifs to explore the art of fabric printing in the studio and also highlight the inexpensive simple way of setting up a printing studio with a view to encourage and capture the attention of some people who believe that a huge amount of capital is needed to set up a moderate textile printing studio.

### **Research Problem**

Printing of designs on textiles as a course is taught in various art and design institutions. This is a course that, which when well tutored and learnt could bring about viable entrepreneurship. This study has observed that most of the textile industries in Nigeria have gone moribund and most of the students trained for the industries are always stranded. And as such hardly find some textile industries in Nigeria to employ them. Some trained ones also believe that manual printing is over laborious and time-consuming. Instead of engaging in it, they prefer to practice other techniques in textile design or look for entirely another strange job. This has resulted in very few people having some interests in owning textile printing studio. Also due to financial constraints, they are not able to set up a textile printing studio. Therefore, this study experimented with textile printing in the studio and sought simple ways in which a simple textile printing studio could be set up to highlight how this can be achieved without huge financial power.

## **LITERATURE REVIEW**

### **Entrepreneurship / Wealth Creation**

Business jargon describes entrepreneurship as the act of starting a business and being willing to risk loss to create wealth in the form of money. It could also be the act of creating, building and scaling a business or businesses to generate a profit. Entrepreneurship is what people do to take their careers and dreams into their own hands and lead them in the direction they want. It is about building a life on one's terms. It has become very imperative for students to study it in a higher institution as one of the courses or as an elective course because of its potential. Entrepreneurship goes hand in hand with wealth creation. Entrepreneurship will enable the apprentice/learner with the ability and readiness to develop, organise and run a business enterprise, along with any of its uncertainties to make a profit. The most prominent example of entrepreneurship is the starting of new businesses. It further explained that an entrepreneur is an individual who has an exclusive idea to initiate and establish a new venture and bring a change in the world. An entrepreneur is highly creative and innovative, takes a risk and endures the unpredictability of business. The business started by entrepreneurs with a new concept for the first time is known as Start-up. An entrepreneur is an individual with the sole idea to initiate and establish a new venture. Entrepreneurship is not confined to starting a new business but it is about facing challenges at each step. It is an important tool for bridging the gap between science and the marketplace, wherein a new enterprise is formed and new products and services are brought to the market (Business jargon).

The characteristics of entrepreneurship according to Business jargon are:

- i. **Economic Activity:** Entrepreneurship is an economic activity because it involves designing, launching and running a new business enterprise to earn a profit, by ensuring the best possible use of resources.
- ii. **Creativity and innovation:** These involve discovering new ideas and implementing them in business. The entrepreneur continuously evaluates current modes of running a business and identifies new methods and techniques for operating the business more efficiently and effectively.
- iii. **Profit:** The activity of entrepreneurship is undertaken with the sole objective of making a profit. It is also the reward for the efforts made and the risk taken by the entrepreneur.
- iv. **Risk Bearing:** “Willingness to assume the risk” is the essence of entrepreneurship without which he/she cannot succeed. It occurs due to the creation and implementation of new ideas. Such ideas are often uncertain, and so the result may or may not be positive and instant.

Printing in textiles and establishing a cottage printing industry offers a promising career in entrepreneurship, in that it is an economic activity that involves designing and running a new business activity to generate profit by certainly making use of resources. New ideas are discovered and implemented to make some profit while bearing some risks. In entrepreneurship, some skills are required which help the entrepreneur to perform his/her duties appropriately. The skills required in entrepreneurship are as follows (Business jargon):

- i. **Technical Skills:** they include oral communication, ability to organise, productive ability, technical business management, coaching, network building, monitoring environment, ability to spot new trends, active listening, writing and interpersonal skills.
- ii. **Business Management Skills:** Forecasting, planning, budgeting, decision making, negotiation, goal setting, human relations, marketing, finance and others.
- iii. **Personal Skills:** Ability to manage change, leadership, persistence, self-reliance, foresightedness, innovativeness, risk-taking, self-reflection, discipline, self-confidence, honesty, patience, intelligence, tactfulness, emotional stability and others.

Since printed textiles showcase designs from the imaginations of artists and designers they have never seen, it is their foremost contact with the unseen designer, their experiences and culture. Through these designs, one could be exposed to another worldview, inspired and connected to them. Therefore, there are some main reasons one should consider fabric printing for a business venture: the fabrics produced are personalised and branded thereby making one's work stand out as being distinct. It offers something different – and suggests a highly professional company, offering the highest quality products. By setting up a fabric printing cottage industry, all measures are put in place to ensure that the fabric printing is the same across products because this is essential in the world of marketing and promotion. It is said to be the only way to ascertain brand consistency and awareness. Customers expect textile designers to act ethically in their business practices since it is no longer acceptable to use methods that are unsustainable and wasteful. This means they need to consider if the materials they use in their businesses come from sustainable sources. Fabrics are environmentally friendly when natural and plant-based fibres are used. They offer more ethical promotional materials than the mass production of leaflets or other paper-based

marketing material. Even though the printing process onto fabrics is more economical, it offers much less chemical waste.

Cost-benefit analysis in business is essential. Therefore, when planning a painting, one needs to consider the impact of the money spent. The biggest budgets do not always have the biggest impact. It is possible to produce a large amount of materials for a low cost when printing on fabric.

Fabric printing allows for creativity and imagination. The setting up processes are relatively cheap – so it is possible to experiment with several designs before selecting the one that suits you. The size of orders can also be much more flexible. With paper-based printed materials it is often true that the batch sizes are prohibitively large – something that penalizes smaller businesses. There are usually no such limits on fabric printing. This means one ends up spending less for something with much higher quality and value. The ultimate reason to select fabric printing is because of the creative verve it demonstrates. People are attracted to fabrics – much more than paper – they want to touch a piece of fabric and look at the design more closely. Fabric products will draw some attention from people – and will not have the same dismissive quality as paper. Fabric designs create personal connections with the customers that other types of printing do not offer. Therefore, this study is of the view that textile printing offers sustainable entrepreneurship when ventured.

## **Printing**

Printing is the process of impressing an image onto a surface using paint or ink (Sleigh-Johnson, 2009). In printing there are various methods utilized, they are as follows: discharge printing, screen printing, roller, cylinder or machine printing, hand block printing, stencil printing, digital textile printing, engraved copper plate printing, discharge printing, flexo textile printing, roller, cylinder, or machine printing, perrotine printing. The particular method that will be briefly discussed in this study is the screen printing and stencilling.

Screen printing is the process of transferring a design onto a flat surface using a mesh screen, ink and a squeegee. It is a popular technique used in a whole range of different industries. Fabric and paper are the most commonly screen-printed surfaces with specialized inks. It is also possible to print on wood, metal, plastic, and even glass. The process is sometimes called serigraphy or silk screen printing. The printing process involves several stages to prepare the fabric and printing paste, and to fix the impression permanently on the fabric: coming up with the design, transferring of designs to the screen, pre-treatment of fabric, preparation of printing paste, impression of paste on fabric using printing methods, drying of fabric, fixing the printing with steam or hot air (for pigments), after process treatments.

## **Textile design/textile designer**

Textile design is the process of creating designs and structures for printed, knitted, woven and non-woven or embellishments of fabrics (Bhatt, 2014). Many textile establishments have a team of textile designers, but the number of designers depends on the size of the industry. The aesthetic appearance and hand feel of most textiles are the main factors considered by consumers because textiles are largely used for body adornment and embellishment of many items (Naik and Wilson, 2009).

The job of a textile designer is quite interesting – ideating and creating beautiful prints and patterns on fabrics. Textile design is the art of designing prints and patterns on fabrics. A textile designer creates patterns keeping in mind current trends, style specifications, motifs, drawings, and colours as well as technical ethical and cultural considerations and then communicates it via the medium of textiles (Thaxton, N.D).

### **Theoretical studies**

The analysis of this study will be approached using various theories that are relevant to entrepreneurship and textile design. Some of the theories and their proponents that will be used for analysis include:

1. Diffusion of Innovation Theory-Proposed by Everett Rogers, a communication theorist in 1962, this theory explores how new ideas and technologies spread within a culture or social system. In the context of manual printing in textile design, this theory can be used to examine the adoption and diffusion of manual printing techniques within the Nigerian textile industry.
2. Social Network Theory- This theory, propounded by J.A. Barnes, an anthropologist in 1954, focuses on the relationships and connections between individuals and organizations. It could be utilized to analyse the role of social networks and connections in promoting and sustaining entrepreneurial ventures in the Nigerian textile industry.
3. Institutional Theory - This theory, proposed by Meyer and Rowan in 1977, focuses on the impact of institutions and social structures on organizational behaviour. It would be relevant to analyse how institutional factors influence the development and success of manual printing entrepreneurship in the Nigerian textile industry.
4. Creative Economy Theory - This theory proposed by John Howkins, a British academician and entrepreneur in 2001, emphasizes the economic potential of creative activities and industries. It could be used to analyse the contribution of manual printing in textile design to Nigeria's creative economy and the entrepreneurial opportunities it presents. These theories provide a framework for analysing the dynamics, challenges, and opportunities related to manual printing in textile design as a viable entrepreneurship endeavour in Nigeria.

### **Printing Tools and Materials used for producing the Printed Fabric Samples in the studio.**

The printing tools are placed in Plate 1 and they are as follows: organdie silkscreen fabric or polyester, laser printer film paper, smooth wooden frame, staple gun, set of silkscreen, photosensitizer- sericol and emulsion, printed designs in black and white for photographic transfer, plain 100% cotton or other fabrics, buckets of water, a piece of foam, kerosene, masking tape, fabric inks and acrylic paints, 3D fabric paint, a spoon, small containers for mixing the pigments, a silk screen frame, squeegee, ruler, paper and notebooks, scanner, a computer or laptop, tape and acrylic yarn.



**Plate 1: Some printing tools used for the studio exploration**

*Source: Chudi-Duru (2023)*

## METHODOLOGY

### Studio exploration 1

African indigenous motifs were utilised in this printing exercise, Uli traditional painting motifs and Akwete hand-woven fabric motif symbols of the Igbo. Five studio explorations were carried out in this study. The procedures followed during the studio exploration are placed on plates 2 - 16. The proposed design starts with preparing the computer-aided design which was printed out on paper. Plate 1a shows the computer-aided design inspired by Uli's traditional designs. It was used for the



**Plate 1a: Paper design**

*Source: Chudi-Duru (2023)*

photographic transfer on the empty screen on Plate 1b. The particular colour separated is usually presented in black and white, depicting the negative and positive.



Plate 1b shows the organdie material (silk mesh) attached to the wooden frame that will be used for the transfer. The empty screen was coated with the photo sensitive chemicals with the aid of a squeegee but the silk mesh must be fixed to the wooden frame using a staple gun.



**Plate 1b: Empty screen**

*Source: Chudi-Duru (2023)*

Sericol (emulsion) and sensitizer were the chemicals used in the coating of the screen. Sericol is a photosensitive chemical while the sensitizer is a chemical-based liquid. The sensitizer is watery and the sericol is a bit thick, which resembles pap but bluish in colour (see Plate 1c).



**Plate 1c: sericol (emulsion) and sensitizer**

*Source: Chudi-Duru (2023)*

The two solutions were mixed to produce a photosensitive solution. This mixture was applied evenly to the screen in a thin coat with a squeegee to enable it to dry easily (see Plate 1d).



**Plate 1d: Coating of the screen**

*Source: Chudi-Duru (2023)*

After coating the screen, it was kept away from the sun preferably in a dark room (in a cool dry place) to dry. It stayed for a few hours to dry. The moment it dried it became photosensitive in that whatever that was exposed to it, immediately transferred to the screen. The screen was brought out from the dark room to the studio where the paper bearing the black and white designs was placed on it. The paper bearing the designs was kept on the dry-coated dry screen, and sprinkled with kerosene (see Plate 2). This made the paper translucent to enable the design to be transferred to the screen.



**Plate 2: Turning the paper to translucent**

*Source: Chudi-Duru (2023)*

A sprinkling of kerosene on the paper was done to make it translucent. It was also fixed to the coated screen brought out from the dark room.



**Plate 3: Placing the paper with the design on the coated screen.**

*Source: Chudi-Duru (2023)*

It was then placed under the sun for a few minutes, three minutes to be precise considering the time of the exposure which was 3 p.m. At this moment, the sun is the empowering agent that makes the image from the film to be transferred to the photosynthetic screen. The kerosene kept the transparent paper in place and helped it to be in close contact with the screen. Once the heat from the sun penetrated through the film, the designs on the film were immediately transferred to the screen. The exposure time was determined by the heat of the sun available. It was exposed in the afternoon when there was much heat so it took 3 to 5 minutes to expose. After the exposure, the screen was taken back to the studio or a shade, but out of the sun to remove the film paper (see Plate 5). When the screen was taken out of the sun to a shade and the paper was removed, water was sprinkled on its surface. As the water was sprinkled, the negative spaces were fixed on the screen while the positive spaces which were unwanted areas were washed away (see Plate 8b).



**Plate 4: Attaching the paper to the coated screen**

*Source: Chudi-Duru (2023)*

The paper design already drenched with kerosene is stuck to the coated screen (see Plate 4).



**Plate 5: The screen was taken back to the shade or studio after the exposure to remove the printed paper design used for the transfer**

*Source: Chudi-Duru (2023)*

The images started appearing on the surface of the screen from this moment as it was gently washed with a piece of foam (see Plate 6). After washing, the screen was allowed to dry till the following day.



**Plate 6: washing of the screen with soft foam and water**  
*Source: Chudi-Duru (2023)*



**Plate 7: completely washed screen.**  
*Source: Chudi-Duru (2023)*

After which the four sides of the screen where there are no designs were covered with a cello tape in preparation for printing. This was done to prevent the printing from staining the fabric from the uncovered sides. Then the printing exercise commenced (see Plate 8).



**Plate 8: printing exercise**

*Source: Chudi-Duru (2023)*

## **Studio exploration 2**

Another printing exercise was embarked on in the studio after the designs were transferred to the screen using the photographic transfer technique the same as in studio exploration 1 before embarking on printing (see plates 9-12); to prove that viable entrepreneurship in textile design is achievable even in a small simple studio.



**Plate 9: Stage 1. Printing exercise**

*Source: Chudi-Duru (2023)*



**Plate 10: Stage 2**

*Source: Chudi-Duru (2023)*



**Plate 11: Stage 3**

*Source: Chudi-Duru (2023)*



**Plate 12: last stage**

*Source: Chudi-Duru (2023)*

### **Studio exploration 3**

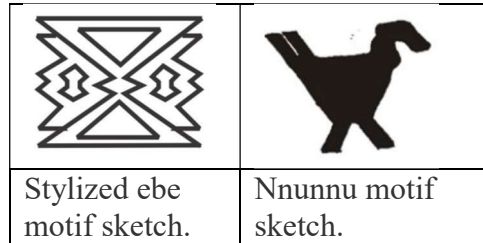
During studio exploration 3, a total number of three akwete woven design motifs were utilised in printing. They are ruler, nnnunu and ebe motifs (see Figure 3). Computer-aided design (CAD) was utilized in designing after scanning and capturing the design motifs (see Figure 4). The technique that was utilised in this studio practice is stencilling. It is a four-coloured printed fabric. The motif sketches utilised were scanned into the computer after the preliminary studies had been conducted. CorelDraw was employed in designing the motifs. It helped in getting the actual shape of these motifs, design network and application of colours. At the end of designing with the CorelDraw, a design was created out of the *ebe* and *nnunu* motifs. It was printed out on film papers and the stencils were cut. A total number of three stencils were cut before embarking on the printing process in the studio. The stencils were separated into their various parts according to their colours. The printing process is presented as follows:

1. The fabric was de-sized to be more absorbent to the printing inks and ironed. The fabric was laid and fastened to the printing table with masking tape to avoid shifting and lifting.



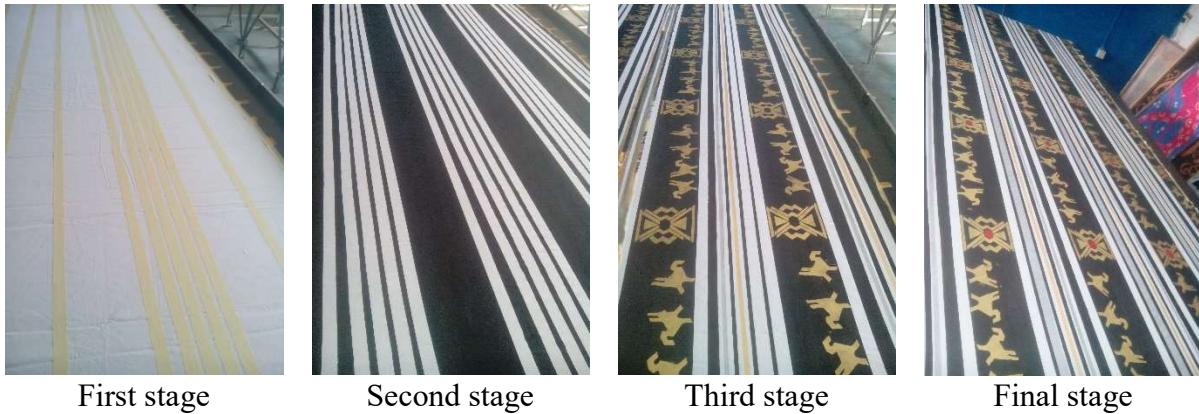
2. The portions in which the designs were printed were demarcated with a tiny sewing thread and masking tape in stage one. This was done according to the measurement of the unit of design printed.

The printing was carried out by utilising the cut stencils and dabbing the designs onto the fabric (in two, three and final stages). The paints used to execute this studio practical are a mixture of textile inks and acrylic paint. Figure 3 is the computer-aided design format.



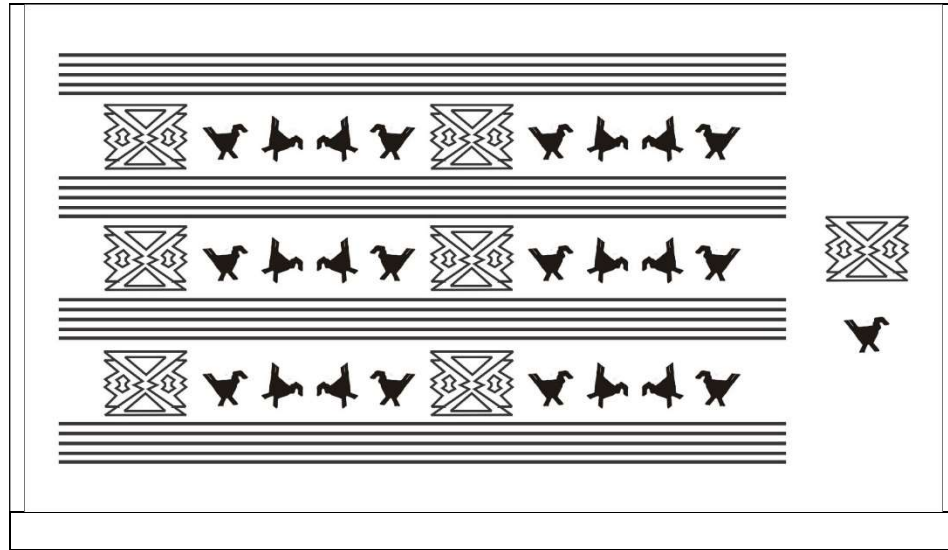
**Figure 3: Nnunnu and stylized ebe design motifs**

*Source: Chudi-Duru (2017)*



**Plate 13: Nnunnu and stylized ebe design motifs printing stages**

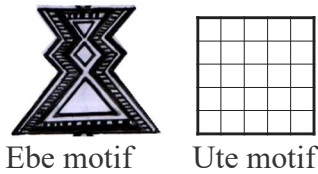
*Source: Chudi-Duru (2017)*



**Figure 4: Nnunu and stylized ebe computer-aided design layout**  
*Source: Chudi-Duru (2017)*

#### Studio exploration 4

During studio exploration 4, a total number of two akwete woven design motifs were utilised in printing. They are ute and ebe motifs (see Figure 5).



**Figure 5: Ebe ukwu afomkpo and ute design motifs**  
*Source: Chudi-Duru (2017)*



First stage



Second stage

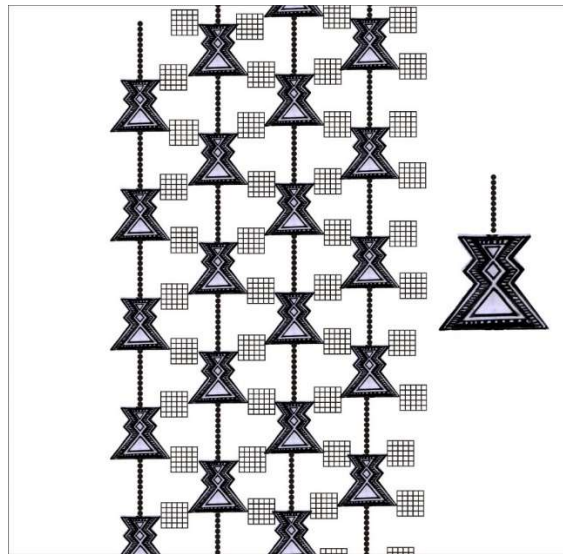


Third stage

**Plate 14: Ebe ukwu afomkpo design motif printing stages**

*Source: Chudi-Duru (2017)*

The technique utilised in this studio exploration is the stencilling technique in printing only. This is a four-coloured printed fabric. The processes utilised in the studio exploration were the same as its counterpart described above so it will not be explained again. The design was printed on laser film papers and the stencils were cut. The stencils were separated into four pieces. The ebe motif with dots is number one, the little ebe inside the ebe motif which is red in colour is number two, while the ute motif is number four. The printing started by utilising the stencils in dabbing with a piece of foam. The paints used to carry out this studio practical are acrylic. The computer-aided design format is placed in Figure 6.

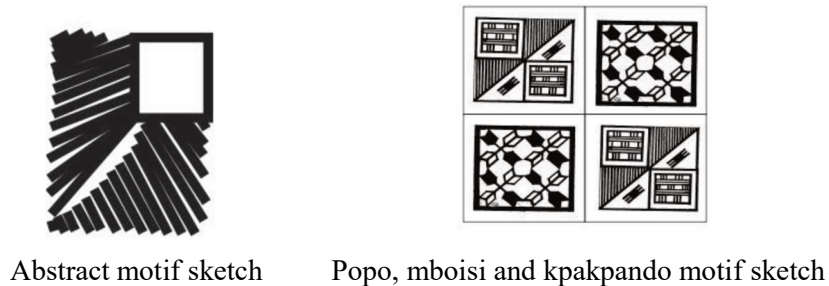


**Figure 6: Ebeukwu and ute motif computer-aided design layout.**

*Source: Chudi-Duru (2017)*

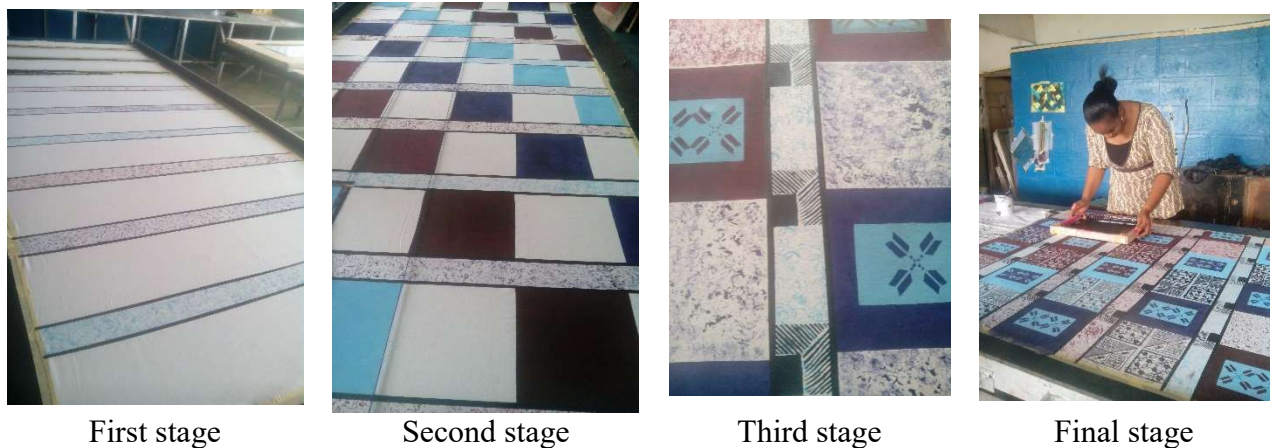
### Studio exploration 5

During studio exploration 5, three akwete woven design motifs and an abstract motif were utilised in printing. They are abstract motif sketches, Popo, mboisi and kpakpando motifs (see Figure 7).



**Figure 7: Kpakpando, mboisi and popo design motifs**

*Source: Chudi-Duru (2017)*



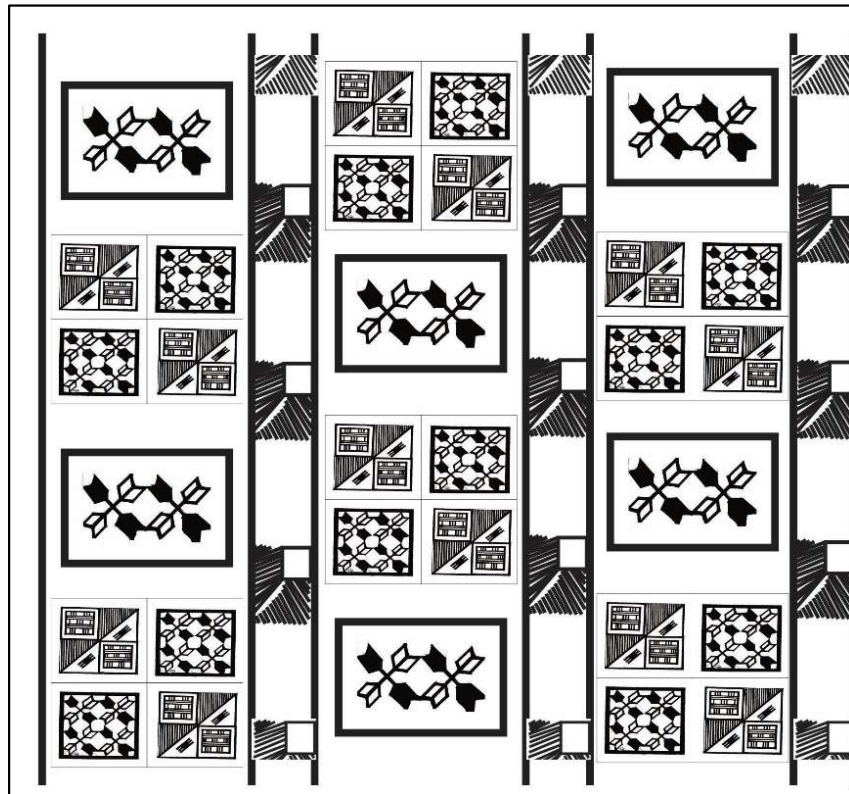
**Plate 15: Kpakpando, mboisi and popo design motifs printing stages**

*Source: Chudi-Duru (2017)*

The printing techniques utilised in this study are a mixture of screen printing using photographic transfer and stencilling. This is a four coloured printed fabric. The sketching of the design was done on a sketch pad. After which the motifs sketched were scanned into the computer. They were worked on by shaping and arranging them appropriately, using the CorelDraw application. This resulted in a pattern of design. After this, the design was printed out on paper and transferred to the

screen using photographic transfer. The part of the designs that required stencils were printed out on laser film papers and cut. A total number of two stencils were cut before embarking on the printing process in the studio while the rest of the designs were achieved through screen printing. The stencils were separated into different parts according to the colours and designs. While the part of the designs that required photographic transfer was transferred to the screen before printing. The studio exploration processes are described below.

1. The cotton fabric was de-sized to make it more absorbent to printing inks. The fabric was ironed after pre-treatment and drying. It was laid and held tightly on the printing table with masking tape, to avoid shifting and lifting while printing. The portions on which the designs were printed, were demarcated with a tiny sewing thread. This was done according to the measurement of the unit of design printed in stage one.
2. A texture was created by making use of two-ply yarns which were squeezed to form a rough ball. These squeezed yarns were dipped in the inks and applied lightly on the surface of the fabric to create a texture before printing in stage two.
3. The printing was carried out starting with the screen printing, after which the cut stencils were utilised starting from the light colours and ending with the dark ones. The paints that were used to achieve this studio practical are the textile inks and acrylic paints. Below in this figure is the computer-aided design format.



**Figure 8: Kpakpando, mboisi and popo motifs computer-aided designs**

*Source: Chudi-Duru (2017)*

### **Setting up a simple textile printing studio**

To set up a simple manual textile studio is achievable and highly necessary to proceed to entrepreneurship in textile design.

*Materials needed in setting up a manual printing studio.*

These include:

- i. Well-padded printing table with heavy strong legs, either wooden or iron; this table should be able to contain at least the length of six yards of fabrics, with 1-inch angle iron fixed with screws at the edge facing the printer.
- ii. Chairs and drawing table, stools.
- iii. Wooden /Iron frames, organdie (silk mesh).
- iv. Ropes of different sizes for hanging out the printed fabric to dry.
- v. Stapler gun with staple pins to fix the silk mesh to the frames.
- vi. Sketch pads, pencils, ruler
- vii. Tape measure, yarns.
- viii. Squeegee
- ix. Kerosene
- x. Tailors' chalk, eraser, pen.
- xi. Pieces of foam
- xii. Stopclock or watch
- xiii. Pressing iron to fix the designs to the fabrics after printing or to strengthen the fabric in case it is rumpled before printing.
- xiv. Plain cotton Fabrics or mixed blend fabrics for printing
- xv. Towels or rags for cleaning up
- xvi. Measuring spoons, cups, buckets, and scales.
- xvii. A well-lit ventilated room/ garage/ fabricated shade supported by a block fence.
- xviii. Laptop/computer, scanner and printer for separation of colours
- xix. Chemicals for photographic transfer
- xx. Cello tape and masking tape are used to fix the fabric on the printing table before printing.
- xxi. paper gum tape, cutter, a pair of scissors
- xxii. Aprons
- xxiii. Textile inks and other paints.

An empty closet, a garage, or any other private space with a large door or free opening could be proper. Another could be a comfortable room in one's home or apartment if one does not have money for a rented shop. There should be adequate natural or artificial lighting and water supply for printing explorations. There should also be a constant electricity supply for ironing, listening to very low music (if need be) and designing. Ensure that the room is sizeable and has good ventilation to allow air to get in and also aid any fumes from chemicals to get out. There should be

cross ventilation of air, a ceiling or table fan for circulating air because of fixatives, varnishes or other types of chemicals in the studio since constant inhalation of concentrated smell from these can be harmful to health.

### **Studio Results**

These are the results of the studio exploration in this study (textile printing).



**Plate 16: Akwete printed fabric produced during the studio exploration.**

*Source: Chudi-Duru (2023)*



**Plate 17: Akwete printed fabric produced during the studio exploration.**

Source: Chudi-Duru (2017)



**Plate 18: Akwete printed fabric produced during the studio exploration.**

Source: Chudi-Duru (2017)



**Plate 19: Akwete printed fabric produced during the studio exploration.**

Source: Chudi-Duru (2017)

## DISCUSSIONS

Engaging the diffusion of innovation theory, which says that over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The result of this diffusion is that people, as part of a social system, adopt a new idea, behaviour, or product. Adoption means that a person does something differently than what they had previously. Previously most of the printed textiles procured were manufactured in the industry but now a good percentage



of them have gone moribund, and manual printing techniques should be adopted. Being that it is taught in many art and design schools, it should be adopted by the learners who will also teach others so that this knowledge will diffuse through the professionals in that field. This will enable those taught to put it into practice.

The Social Network Theory sees a social network as a social structure made of nodes (which are generally individuals or organizations) that are tied by one or more specific types of interdependency, such as values, visions etc. The social network in this context is the textile printers tied by the same ideas and visions. Through networking, entrepreneurial ventures of manual printing in the Nigerian textile industry could be promoted and sustained. Also, the ideas of the establishment of small cottage industries could be shared and achieved.

Institutional theory focuses on the impact of institutions and social structures on organizational behaviour. In this context, the students are taught how to print manually in the institutions, but the aspect of setting up a cottage industry when they graduate is not emphasized. This factor if included in their scheme of work, could influence the development and success of manual printing entrepreneurship in the Nigerian textile industry, instead of waiting and desiring to work in textile industries where automated machines are employed. Most of these industries in Nigeria have gone moribund.

Creative Economy theory emphasizes the economic potential of creative activities and industries. Cottage textile industries in which printing is practised are examples of the creative economy in Nigeria, the business activities are open and unlimited, and they produce products of creative value which enables artists and designers to turn their creativity into sustainable careers, used for community development, cultural preservation, innovation and also for problem-solving.

## **FINDINGS**

This study found that printing in textiles has been identified as an art that offers great skills. It also found that a simple textile printing studio could be set up in a room or garage without spending a huge amount of money. This studio exploration produced some fabric-printed samples which could be sold to generate some income. Manual processes were utilized showing that much more appropriate printed designs could be achieved using the screen printing technique. The materials used are those that are within reach and affordable. This exercise has proven that manual printing of designs on fabric offers feasible and workable entrepreneurship. This study found that the establishment of a simple textile printing studio could be achieved without spending too much money. It further listed some simple equipment that could be procured without much difficulty by starters. Which when embarked on, could generate endless opportunities in entrepreneurship, promote skill acquisition and aid self-employment.

## **CONCLUSION AND RECOMMENDATIONS**

Since most of the textile industries in Nigeria have gone moribund and the setting up of a textile printing studio is not as expensive as a full-blown automated textile industry, this study is of the view that instead of one waiting for their revitalization by the government, cottage textile industries could be set up by philanthropists, non-governmental organizations, some women organizations, religious organizations, communities, schools, groups of individuals or individuals. Sponsorship could also be sought by interested parties from local or foreign establishments. In this manner, some clothing needs in (the area of printing) could be solved and jobs created for some people. This will cut down the importation of textile goods and also reduce unemployment.

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