DEVELOPING A WORKFLOW USING COREDRAW SOFTWARE AND STUDIO METHOD TO PRODUCE UKARA BATIK WALL HANGING

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Introduction

UKara cloth is a revered cultural heritage in Nigeria, particularly among the Igbo people. This traditional textile is renowned for its intricate designs, symbolic motifs, and rich cultural significance. *Ukara* is an indigo-dyed cloth used exclusively by members of the Ekpe secret society in the multi-ethnic Cross River region of southeastern Nigeria and nearby parts of Cameroon (Nzewi and Ellis, 2015). However, the design and production processes of Ukara cloth have remained largely unchanged, relying on traditional methods passed down through generations. This has resulted in a limited design repertoire, reduced productivity, and a lack of innovation in the industry.

The advent of Coreldraw software has transformed the textile design industry worldwide, enabling designers to create complex designs, experiment with new patterns, and streamline production processes. However, the adoption of CAD technology in traditional textile design, particularly in Africa, has been slow. CAD software enables textile designers to fully utilise their creativity when designing knits and printed and woven patterns (Browzwear, 2024). Coreldraw software plays a vital role in textile designing as well as fabric manufacturing. Possessing flexible, dynamic, and versatile techniques, the software offers the benefit of experimenting with a large number of colours, patterns, textures, and sketch backgrounds for producing an animated design (Liliana et al., 2019).

The advancements of 3D technology and computer graphics have changed the way of garment designing (Himanshi et al., 2019). Textile designers implement CAD into their apparel design workflow, which allows them to experiment virtually and make any changes and alterations to the garment before taking it to production (Browzwear, 2024). The batik technique was used to archive the product of the CAD onto a fabric, using wax and dye. The art of decorating cloth using wax and dye has been practiced for centuries in many parts of the world, including China, Japan, India, South America, and Europe. The word batik originates from the Javanese word “tik, which means to dot. Batik techniques can also be used on paper, wood, leather, and even a ceramic surface. (Diane, 2024).

Therefore, this study aims to capture the personal reflection, experience, and critical thinking about the intersection of digital technology and batik production.

Research Questions

The following are research questions that guided the study:

- How can CorelDraw software be leveraged to innovate and streamline the design process of Ukara cloth?
- What are the benefits and challenges of adopting tech in traditional Ukara cloth design?
- How can a CAD-based design system be developed to preserve the cultural essence of Ukara cloth while promoting innovation and creativity?

Purpose of the Study

The purpose of this study is to show how the researcher utilized CorelDraw to develop various designs and colour swatch samples and optimize the studio method in producing the Ukara batik wall hanging.

Literature Review

Contemporary batik, while owing much to the past, is markedly different from the more traditional and formal styles of the past. The artist may use a wide variety of techniques to apply the wax and the dyes: spraying, etching, discharging, cracking, marbling, and using all sorts of different tools: copper and wooden stamps, brushes, and stencils. (Diane**, 2024)** Batik, as a suitable form of official wear for formal events and special occasions, other than symbolizing Malaysian culture and tradition, gives a directional hint for the future, as one that lies somewhere between developing keen followership and admiration for its purest forms and finding new avenues of expansion through contemporary craftwork, design, and marketable fashion (Poon, 2017). According to Bianpoen (2018), in the exhibition review on Patterns of Meaning: Indonesian Batik and Contemporary Art, she described the level batik art has gotten to through the artist who created them as a huge art for decoration only and with a cultural and historical context. The aesthetic values and philosophy of classical batik are potential sources of ideas to be realized in the development of contemporary art, so the meaning of classical batik can be interpreted in various ways. (Adam, 2020).

Theoretical Framework

Workflow Theory This theory will guide the development of a workflow for using CorelDraw software to develop a concept for batik production, focusing on the optimization of design and production processes. This theory guides the easy and convincing production process. It makes workflow more easily and conveniently achieved without glitches. According to Bardram (1997), in his article, Plans as Situated Action: An Activity Theory Approach to Workflow Systems, states that workflow is backed up by Activity Theory, which emphasizes the connection between plans and the contextual conditions for realizing these plans in actual work. The application of this theory has increased production height in the creative landscape; for instance, basic scripting is used in various software packages, such as Unreal, Nuke, Houdini, and other industry-leading software, to optimize artists' workflows. This theory has advanced artistic workflow in filmmaking production and other creative activities.

Materials, Tools and Methods

Materials: these are materials used in the production of Root and Wings:

1. Pencils
2. Paper
3. Watercolour
4. Water
5. Fabric
6. Wax (paraffin)
7. Dye pigments
8. Caustic Soda
9. Hydrosulphide
10. Salt

Tools:

1. Drawing board
2. Computer
3. Kettle
4. Plastic container (for dyeing)
5. Hand gloves
6. Nose mask
7. Pot (for DE waxing)
8. Wax pot

9. Wax table
10. Tjanting (foam)
11. Stove

Method:

The method used is studio-based research, which reports and discusses a personal design approach the researcher considers innovative by using CorelDraw to create colour swatches. It is broken down into three stages: the Design and Planning Stage, the Batik Production Stage, and the Quality Control and Finishing Stage.

Design and Planning stage:

Step 1: Developing sketch concepts for the Root and Wings (seen in Fig. 1)
Step 2: Produce a colour rough for further developing colour swatches using CorelDraw software. Seen in (Fig. 2)
Step 3: Using CorelDraw software to produce different colour swatches for selection seen in (Plate 1);
Step 4: selected an image to be used to further development on the fabric with paraffin wax. (Plate 2)

Batik Production Stage:

Step 1: Spreading the plain white fabric on the table. (Seen in Plate 3)
Step 2: Transferring of symbols and signs on the fabric with pencil (plate 4)
Step 3: Tracing the pencil marks with hot paraffin wax (plate 5)
Step 4: Prepare the dye pigment and the additive substances in a plastic container to make a dye vat that will be used to dye the first colour.
Step 5: Dip the waxed fabric inside the prepared dye solution to dye the first colour for 30 minutes. It is important to note that the waxing and dyeing won't come out symmetrically the way it was done with CorelDraw software. It will be asymmetrical.
Step 6: Remove it from the dye solution and spread it under the shade for oxidation. This is the process of allowing oxygen in the air to touch it so that the actual colour will show up. It will also fasten the colour in the fabric.
Step 7: Repeating the same process of waxing this time is to block the dyed red area to resist the second dye from penetrating through.
Step 8: Repeating the same process as in step 4 with black dye pigment.
Step 9: Repeating the same process as in step 5. Rinse till the fabric no longer bleeds colour.
Step 10: Dip in a boiling water stair for 1 to 2 minutes to remove the wax; after that, rinse in clean water and spread to dry in the open air.

Quality Control and Finishing Stage

Step 1: Checking the batik for regularity.
Step 2: Finishing treatments: Starching, drying, and ironing to enhance the texture and appearance of the batik.

Design and Planning stage: Preliminary drawing for Root and Wings

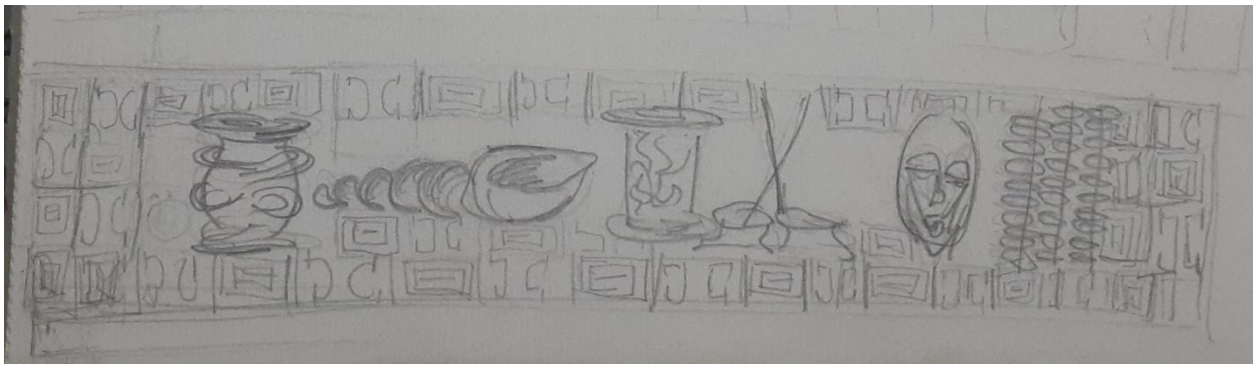

Figure 1: Sketch for *Root and Wings. Pencil sketch on paper 12" x 4" Researchers' preliminary sketch own photo 2025*

Figure 2: Colour swatch for *Root and Wings. Watercolour on paper 12" x 4" Own photo 2025*

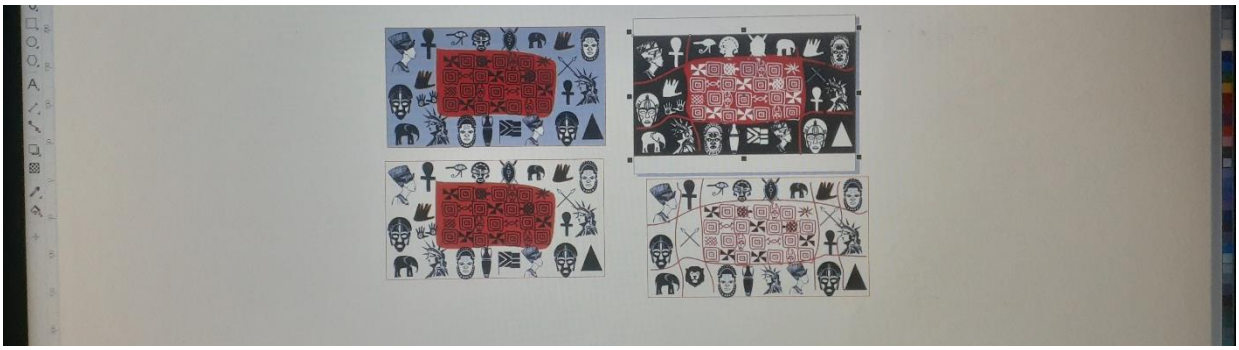

Plate 1: Using CorelDraw software for *Root and Wings. Design swatches on* CorelDraw Own *photo 2025*

Plate 2: Selected image from CorelDraw software for *Root and Wings.* Own *photo 2025*

Batik Production Stage:

Plate 3 and 4: Right, plain white linen fabric **Left**: Sketch on the white linen fabric for *Root and Wings. 28" x 50" Own photo 2025*

Plate 5: First waxing on the white linen fabric after sketch *Own photo 2025*

Plate 6 and 7: left: Mixing dye and additives. **Right: Dyeing the** first colour in red dye solution on the white linen fabric after waxing, *own photo 2025*

Plate 8: After the first colour is dyed in red dye solution, the area dyed is covered with wax to resist the second black colour from penetrating. *Own photo 2025*

Plate 9, 10, and 11: Right: After covering the red-dyed area with wax, the waxed fabric is submerged in the black dye solution for the second colour. **Centre:** Dyed linen fabric undergoing oxidation. **Left: De-waxing** of fabric design *Own photo and Adireworld 2025*

Finishing Stage:

Plate 12: Final work on Root and Wings, 28” X 50”. Own photo. 2025

Discussion

This study involved the use of CorelDraw software to generate pattern arrangements that were selected and manually transferred to a fabric using Tjanting and wax. This research is a personal reflection, experience, and critical thinking about the intersection of digital technology and batik production. It sheds light on the possibility of making a handmade batik flow easily by the incorporation of CorelDraw software. Secondly, by using the CorelDraw software, it gave the researcher the opportunity to generate patterns of various designs and arrangements and colour swatches, which enabled the researcher to make selections on a particular design and colour swatches that were used for the production (plate 2). It is important to note that the generated pattern from the CorelDraw software cannot be symmetrically achieved on batik, due to the manual process that was achieved asymmetrically. Looking at the root and wings, you will see that the pattern generated by the CorelDraw software wasn't achieved symmetrically, on the batik as seen in (plate 2). The centred pattern is a red background with white resisted areas and surrounded by motifs, and the black background with resisted white areas (plate 12).

Finally, the theoretical framework employed gave a foundation for future reference and research, which can be applied to other forms of art and design. The research shows the potentiality of creative tech in many traditional African art forms that may involve the use of CorelDraw software to achieve an easy workflow for a better production of artwork.

Conclusion

Based on the findings above, there is possible indication that CorelDraw software gave a work flow in the production of the batik ukara wall hanging. This study has demonstrated personal reflection, experience, and critical thinking about the intersection of digital technology and batik production. The developed workflow, which integrates CorelDraw software with traditional batik production techniques, has shown promising results in reducing production time, improving design accuracy, and enhancing the overall quality of the final product. The research is an eye-opener for the academic researchers, textile designers, Producers, and local artists, by giving them the potential possibilities of optimizing tech in artistic production for easy workflow to achieve an aesthetically good finishing and well-presented work of art. The batik wall hanging is an integration of Ukara design concept and some African artefacts to produce a contemporary Ukara batik wall hanging. There is an influence of traditional elements over contemporary batik art, by taking it away from the crude state and integrating other elements to create contemporary textile art for interior decoration. Finally, it can be attributed to the effective integration of Coreldraw software with traditional batik production techniques. The use of Coreldraw software enabled the creation of complex designs, improved design accuracy, and reduced production time. The traditional batik production techniques, on the other hand, ensured that the final product retained its cultural significance and aesthetic appeal.

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