

THE EFFECTS OF MODERN TECHNOLOGY ON THE PRODUCTION OF EMBROIDERED CLOTHING IN SOUTH-WESTERN NIGERIA

Adiji Bolajoko Esther

The Federal University of Technology, Akure, Ondo State, Nigeria.

ABSTRACT: *Research into embroidery practices in the South-Western Nigeria seems to be few and some of the studies on embroidery production on textile garments look superficial and on the peripheral level. Today, embroidery through machine has completely revolutionized the demand for embroidery designed products such as clothing and fashion accessories both locally and internationally. The invention of machine-tailored embroidery has made it possible to produce a wide range of design. However, the modern technology has brought about better but more sophisticated tools and machines to help solve problems. Technology had continued to influence every sphere of endeavour of which the field of fashion and embroidery production in particular is not an exceptions. The effects of modern technology on the production of embroidery are assessed in this paper. The paper concludes and discovered that, majority of the embroiderers are not vast in the computer aided design, which producers use to make diverse designs on various items aside wearable apparel. Even those that use machines to make designs, still find it difficult to use the computer aided design (CAD) which is reigning in the fashion world today*

KEYWORDS: Modern Technology, Embroidered Clothing, Computer Aided Design, Nigeria

INTRODUCTION

The essence of technology from time immemorial has been to help solve problem through the use of simple machine. However, the modern technology has brought about better but more sophisticated tools and machines to help solve problems. Technology had continued to influence every sphere of endeavour of which the field of fashion and embroidery production in particular is not an exception

Research into embroidery practices in the South-Western Nigeria seems to be few and some of the studies on embroidery production on textile garments look superficial and on the peripheral level. Mogg (2000) noted that each embroidered piece reflects its own time, taste and the prevalent styles. In most of the related documentation, it is rare to come across a comprehensive analysis of handcrafted and machine embroidery in the South Western Nigeria. Fashion designed textiles in the South West of Nigeria is so dynamic, because of the funfair attached to the Yoruba culture which seems to be flamboyant and flashy. Yet, embroidery expression seems not to be matching up with fashion embroidery as practised and employed in Northern Nigeria.

Osunfisan (1971) researched into dress embroidery in Kano city with an objective of documenting the various stitching applicable on men's dresses. Heathcote (1979) examined the evolution of a truly Hausa type of embroidery and the Sudanese influence on Hausa dresses. Ogunduyile (1985) also examined the aesthetic and symbolic aspects of Hausa caps and garments, with a view to appreciating the values often attached to the crafts. The studies revealed understanding of symbols as a medium of cultural expressions in the Hausa culture. However, the scope of these studies did not cover the Yoruba embroidery practices and their

symbolic meanings. The studies also left out the interrelationship between hand embroidery and the effects of technology on the production of embroidered clothing in South-Western Nigeria. With growing interest in embroidery production, the need to assess the level of technology usage in embroidery practices among the practitioners in South-Western Nigeria, as well as its cost effectiveness has become pertinent as it was carried out by Wing (2010), who conducted a research on computerized embroidery and how it could enhance contemporary fashion.

The need to examine the various steps in motif creation through the use of hand and machines, becomes pertinent.

LITERATURE REVIEW

Contemporary Use of Machine in Embroidery Patterns and Garment Production

In the contemporary period, traditional Yoruba embroideries have become increasingly modified with their motifs as a result of western ideas and technology. This method has to do with the use of computer machines to make patterns on customer's garment cheaper and quicker to achieve. Every society in the South-Western Nigeria has its own kind of decorative motif that is of value to it. The contemporary development of embroidery in this country has been in the direction of embroidery upon woven fabric such as (*aso-oke*), batik, tie-dye and *akwete*

With changing periods and growing needs of the consumers, the requirement for mass production is eminent, therefore, the concept of machine embroidery came into emergence; Today, embroidery through machine has completely revolutionized the demand for embroidery designed products such as clothing and fashion accessories both locally and internationally. Machine embroidery designs involve the use of most advanced techniques that render application like automatic digitizing 3-dimensional effects and multiple sequencing. This software ensures fine finishes and elaborate designs, thereby increasing the commercial value of embroidered products (Akinwumi, 1998). Having given an elaborate account of the effectiveness of machine embroidery, the handmade embroidery has its own uniqueness and its own audience in the society.

To create free motion embroidery, the embroiderer runs the machine and skilfully moves tightly hooped fabric under the needle to create design. The operator develops the embroidery design manually using the machine settings for running stitch and fancier built in- stitches. As this is a manual process rather than a digital reproduction, any pattern created using free motion machine embroidery is unique and cannot be exactly reproduced, unlike the computerised embroidery. Most modern embroidery machines are computer control and specifically engineered for embroidery. There are industrial and commercial embroidery machines and combination sewing. These types of machines are driven by computers that read digitized embroidery design files created by special software. Lemon (2004) observed that these machines are special purpose sewing machines which produce elaborate embroidery on fabrics by following a computer design can either be user-created or created by the designer.

The designs are made possible by advances in computer technology. A more recent innovation in home sewing embroidery was first commercially available in the 1990s, (Lemon, 2004). These machines have certain stored patterns that users can access, similar to computer

programmes. As technology advances, embroidery machines are becoming more expensive, but one can purchase software that works with digital input to turn a picture or favourite creative artwork into a machine readable embroidery pattern for use in the embroidery machine. The desire of the designers to satisfy the numerous customers and at the same time create aesthetic designs within the societal frame work and portrayal of individual personality in the product is important.

Computer Aided Embroidery Design in Nigeria

Although traditional hand embroidery has existed for thousands of years, machine embroidery is aged at about 200 years. Andreadis, lampridou and Sherar (2015) mentioned that, Josue Heilmann created the first hand embroidery machine in the year 1828. This machine was able to utilize up to 4 hand embroideries, and signaled the start of revolution in embroidery.

Today, embroidery machines can be single-head or multi-head, which can fit up to 56 heads. Each head can fit one thread colour, which means that the number of heads determine the amount of colours that could be included into embroidery without interrupting the machine's function. Along with the embroidery machines, design softwares were developed to specifically serve various embroidery requirements. This breakthrough boosted the embroidery production and a new revolution began in the embroidery industry which led to the use of computer aided design CAD.

Computer Aided Design can be defined as the use of computer technology for design of objects, real or virtual to achieve precise drawing. Anderadis *et al* (2015) observed that, the resulting drawings contains symbolic information such as the materials, the processes, the dimensions and the tolerance, according to application specific conventions. Computer Aided is also utilized by the embroidery industry in order to improve the embroidery designs.

The embroidery design software that has been developed fulfils home, commercial and the industrial embroidery needs. Bidwell (2009) opined that, there exist various commercial and free software products that enable the designing and editing of embroidery patterns and images. The purpose of the design embroidery software is to translate the drawing made in the computer into stiches, and executed by the embroidery machine.

The software products usually have advanced users interfaces with sophisticated functions. The user can create a drawing, set up the number of stiches, define the type of stiches, that is, satin, run fill stiches, it will select colours and edit the design. There are also more complicated functions, which include the import images to the software and their digitalization, offering all the main attributes of the images processing.

Furthermore, some of the embroidery design software solutions offer letting functions. These functions aim to convert automatically a true type font into stiches. In this way, a font character can be embroidered. Wing (2010) believed that the emergence of computerized embroidery in fashion industry was created by factory workers, or embroidery using hand in fashion industry until there was invention of embroidery sewing machine.

Computerized embroidery means the automation of the embroidery machine operation, which is mostly controlled by the accurate computer instruction to create high quality and standardized embroidery design. Embroidery machine manufacturing industry has solved the labour intensive problem as most of the processes are done by computer. Moreover, as the

entire process is planned precisely, production cost and related cost is reduced. As a result of these advantages, computerized embroidery is commonly used in the fashion industry.

Nowadays, familiarization of fashion designers towards computerized embroidery is well used by some international fashion brands to add value to designs. It is believed that the local designers are not familiar with the techniques. Nigeria fashion designers especially the older generation seldom use computerized embroidery activity in their designs. They mostly use CAD while meeting the requirements of employers or customers.

The invention of machine-tailored embroidery has made it possible to produce a wide range of designs. In one way or the other, this has had adverse effects on the art of handcrafted embroidery, which is painstaking and time consuming. The machine embroidery, is used to create patterns on textiles, it is used commercially in product branding, corporate advertising and uniform adornment. The cost of the most recent machine embroidery technology that is computerized embroidery machine may be high in countries like Nigeria where the machines are neither manufactured nor assembled. Therefore this chapter shall summarize the findings from the analysis carried out in the previous chapter.

METHODOLOGY

The effects of modern technology on the production of embroidery are assessed in this section. Table 1 shows the various perceptions of consumers on the effects of modern technology on the production of embroidery clothing.

Table 1: Effects of modern technology on the production of embroidery clothing

S/N	Perception Statements	Mean	RII	Rank
1	Hand embroidery is more durable than machine embroidery	2.43	0.486	12
2	The demand for hand embroidery is greater than machine embroidery	2.53	0.506	10
3	Quality is steadily improved to retain customers patronage of the traditional handmade embroidery	4.09	0.818	1
4	Traditional embroidery enjoy more patronage than machine embroidery	2.71	0.542	8
5	Production pattern rate of hand-made embroidery enjoys more patronage than machine made embroidery	2.50	0.500	11
6	There is working relationship among the handmade embroiderers, consumers and fashion designers	3.84	0.768	2
7	Consumers opinion are readily sought by the producers of handmade garment and clothing accessories	3.50	0.700	6
8	There is relevance in variety of contemporary embroidery to fashion trends and patronage.	3.50	0.700	6

9	Finance is one of the major factors affecting the practices of embroidery in South-western Nigeria	3.82	0.764	3
10	The reproduction techniques of traditional embroidery are more tedious than the machine embroidery	3.68	0.736	5
11	The impact of computer aided design on the machine embroidery affects the demand and supply of hand embroidery among consumers	3.70	0.740	4
12	The patronage level of embroidery materials from stakeholders is low	2.66	0.532	9

Source: Field Work, 2014

Results indicate that ‘quality is steadily improved upon to retain customers’ patronage of the traditional handmade embroidery’ as having the highest relative importance (RII 0.818) followed by ‘there is working relationship among the handmade embroiderers, consumers and fashion designers’ and ‘finance is one of the major factors affecting the practices of embroidery in south-western Nigeria’ with relative importance of (RII 0.768) and (RII 0.764) respectively; this is a good development as a better working relationship among stakeholders will improve the quality and process of making embroidery.

Meanwhile, consumers believed that the use of computer aided design (CAD) on the machine embroidery affects the demand and supply of handmade embroidery with a relative importance of (RII 0.740) and this is closely aligned with the perceptions of consumers that ‘the reproduction techniques of traditional embroidery are more tedious than the machine embroidery’ (RII 0.736) ranked fourth and fifth respectively in the significance list.

The results show that consumers show no difference in their perception of whether traditional embroidery enjoys more patronage than machine embroidery (RII 0.542) and whether the patronage level of embroidery materials is low (RII 0.532) ranked eighth and ninth respectively in the significance list.

However, consumers considers ‘the demand for hand embroidery is greater than machine embroidery’ (RII 0.506), ‘production pattern rate of handmade embroidery enjoys more patronage than machine made embroidery’ (RII 0.500) and ‘hand embroidery is more durable than machine embroidery’ (RII 0.486) as the least significant factors and ranked tenth, eleventh and twelfth respectively.

CONCLUSION

From the investigation carried out from the study on hand and machine embroidery in selected cities of South Western Nigeria, most of the artists who produced the design of embroidery were more of females than males, especially using the machine to make embroidery design. Most of them are married and are not educated. Findings also show that the art was introduced through the trade between the Northern Nupe and the missionaries in Abeokuta for the propagation of the gospel.

Machine made embroidery is easier compared to handmade embroidery which is tedious, painstaking, and time consuming. The impact of computer aided design on machine made embroidery affects the demand and supply of embroidery among consumers. Computerised embroidery is commonly used in the fashion industries. Most hand embroiderers are not familiar with the techniques.

The findings also discovered that, majority of the embroiderers are not vast in the computer aided design, which producers use to make diverse designs on various items aside wearable apparel. Even those that use machines to make designs, still find it difficult to use the computer aided design (CAD) which is reigning in the fashion world today

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