

Research

Influence of modern technology on Ghanaian indigenous pottery and fashion trends

Ophelia Ohenewa Mefful¹ · Kofi Asante-Kyei² · Caleb Nii Darku Dodoo²

Received: 20 September 2023 / Accepted: 26 January 2024

Published online: 22 February 2024

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Abstract

In Ghana, due to the social dynamics of modernization, there has been an increasing awareness among the population about modern ceramics and fashion owing to the influence of print and electronic media. This paper brings to light the effects of technology and the responsiveness of the ceramic and fashion industries in Ghana. The research design adopted for this study was a mixed-methods design. This design involves the collection and analysis of quantitative data followed by qualitative data to provide a comprehensive understanding of the research topic. The study adopted a stratified sample size of 105 out of a targeted population of 142 from three groups at Takoradi Technical University, Ghana. The study covered ceramic and fashion lecturers (15), ceramic and fashion students (35), and non-ceramic and fashion students (55). A structured questionnaire and interview guide were used to gather information. The questionnaire was subjected to a reliability test with Cronbach's alpha, and it resulted in a reliability coefficient of 0.82 (82%), which was above the recommended minimum of 0.7. The gathered data was analysed using both quantitative and qualitative methods. The Statistical Package for Social Sciences (SPSS) version 27 software and ATLAS.ti were used for data analysis. The study revealed that the availability and exposure to technologies in the twenty-first century have had a major influence on indigenous pottery and the choice of clothing in Ghanaian society. The collective evidence from the results also underscores the transformative impact of digital platforms and technology in shaping perceptions, practices, and preferences within the indigenous pottery and fashion domains. The paper recommended that the stakeholders in these creative industries strategically harness the synergy of social media and technological tools to enhance global exposure, foster economic growth, and ensure the preservation of cultural heritage.

Keywords Clothing · Computer · Internet · Pattern · Traditional pottery · Technology

1 Introduction

An overview of socio-cultural trends in Ghana revealed a predominant change in choice of ceramic artifacts and fashion clothing. According to Michie [10], the influence of globalization, which is evidenced by modern technological tools such as machinery and computer technology, has had an effect on professionals and observers in the ceramic and fashion industries. The reason for the choice of traditional pottery and clothing linked to socio-cultural identity, means of communication, symbolic expressions, values and body protection has been under study by authors and researchers [3]. In Ghana, the slow rate of development has affected everything spanning from A to Z of which trends of fashion and ceramics are no exception. History had shown that these industries have had their better periods sometime back and if

✉ Kofi Asante-Kyei, kofi.asante-kyei@ttu.edu.gh | ¹Department of Fashion Design, Takoradi Technical University, Takoradi, 256, Takoradi, Ghana. ²Department of Ceramic Technology, Takoradi Technical University, Takoradi, 256, Takoradi, Ghana.



followed keenly, could have contributed to the country's economy growth more than it's doing presently [4]. Even though there is no scarcity of talent in Ghanaian art industry including traditional pottery, textile tradition or even industrial textiles, what is missing, according to Herman [7], in Ghana and by extension Africa, is a strategic course that would address ceramic and fashion industries as sectors. Based on this major analysis, Ghana cannot be ranked or classified as a hub for ceramic and Fashion models when countries across the globe are being ranked in the fields of ceramic and Fashion industries [1, 11]. According to Bosmas [5], there was a slow impact on the fashion styles which emerged with the arrival of the foreign travelers through the trading of European clothes and other goods for gold popularly termed as 'barter system', along the coastal lands during the Gold Coast era. Although loincloths were utilized in both the southern and middle parts of the country, their usage were greatly influenced when the Europeans had access to the remote areas. Since then, the typical Ghanaian clothing style has been diluted by western fashion trends. Although Ghana is comparatively a small country, she composed of several ethnic groups with varying cultures and beliefs, and their fashion trends as well as traditional pots can be used to trace one's ethnic cultural setting, belief and, of course, the occasion for which such choices of traditional pots could be utilized and clothing were chosen and worn [3]. Regarding the need for definitive laws to regulate and protect cultural values of traditional pottery and fashion trends in Ghana, parliament ought to enact laws to protect our cultures, values and beliefs. They should also consider putting some regulatory measures in place in checking how much levels of ceramic and fashion products that could be imported into this country in order to protect made—in—Ghana products [11]. In countries like Saudi Arabia and Iran where Shariah law is implemented, the law enforces women to wear 'hijab' (scarf). That is, it is mandatory for every female out the street to cover the very hair on her head and also not to wear pants [15]. Consequently, no level of exposure to the western style of fashion can harm their fashion trend. This also allows tourists from other countries into such fashion-culture law-abiding countries to have a feel of the host countries' culture by way of its fashion trends and thus, appreciate them [15]. In the same vein, traditional pottery products like cups, bowls, and decorative pieces depicting rich Ghanaian cultural values be made to form part of foreign tourists' package. This tourist appreciation and exposure guarantees Ghana some foreign exchange [6]. Though gradually, our cultural values kept changing over time due to external influence of modern technology on Ghanaian indigenous pottery and fashion trends as well as internal influences to some extent, some of the changes can be attributed to the social media which gives instant access to activities around the globe without censoring or warning. Even though social media has been regarded as technology and innovation, it is also essential for human life [8]. This has led to distorting of cultures and fusion of cultures which includes the blend of clothing and fashion elegance of various backgrounds into one another [2]. Upholding our cultural values of indigenous pottery and fashion trends to the highest level, we could employ modern technology which is very influential to showcase that of ours for others outside our borders to embrace our rich culture, traditional pottery as well as its fashion. In this wise, the government ought to give some form of leverage by way of censorship or regulations as to which we can also import in order to protect our rich culture, indigenous pottery and fashion that make us unique just as our national flag stands out [11]. Undoubtedly, modern technology has had immense influence on Ghanaian indigenous pottery and fashion trends. The positive aspect of this is that we are not seen as odd on international platforms, be they sports, world-leaders' conferences, schools meeting among others. Our traditional values and fashion trends gravitated towards that of the Western trends because the nature of clothing worn around the period of slavery was very complex and unappealing. Also, it was based on rank and status of the individuals within these communities. For some cultures, it exposes sensitive parts of the human body. This is especially peculiar to women, and this trend is still practiced in some cultures irrespective of protests from governments and other international bodies.

1.1 Statement of the problem

In Ghana, external influence has become so widespread and so aggressive across almost every activity be it education, politics, religion, and social life. The foreign influence has raided us as a nation especially, the younger ones of Ghanaian identity as a country [11]. This was the era when technology was not known, let alone appreciated. Now, due to the introduction of social media, access to all kinds of fashion and ceramic products is easy as a result of its accessibility and sharing of information [9]. In another development Addae [1] opined that the influx of foreign products like plastic products has affected the socio-cultural values of traditional Ghanaian pottery like medicinal pots, fufu bowls, soup bowls, plates, cups and saucers, among others. It is as a result of these setbacks that the study seeks to find out how technology has impacted Ghanaian indigenous pottery and fashion Trends.

1.2 Objectives of the study

1. To discover the influence of technology on indigenous pottery and fashion trends in Ghana.
2. To ration the use of technology in developing indigenous pottery and fashion trends in Ghana.

1.3 Research questions

1. What are the influences of technology on indigenous pottery and fashion trends in Ghana?
2. How has technology been used in developing indigenous pottery and fashion trends in Ghana?

1.4 Importance of the study

The study would be beneficial to ceramic and fashion students of Takoradi Technical University in balancing technology and indigenous cultures in terms of career paths.

1.5 Delimitation (scope of the study)

The proposed study would only be conducted on campus of Takoradi Technical University, Takoradi, Ghana.

2 Research methodology

2.1 Research design

The research design adopted for this study was a mixed-methods design. This design involves the collection and analysis of quantitative data followed by qualitative data to provide a comprehensive understanding of the research topic. Integrating both qualitative and quantitative data, aims to offer a comprehensive exploration of the dynamic interplay between modern technology, Ghanaian indigenous pottery, and fashion trends. The inclusion of lecturers, students, and non-specialists ensures a holistic understanding of the subject matter, enriching the study's findings and contributing to a more nuanced interpretation of the influence of modern technology on these cultural and artistic practices.

2.2 Target population

The research sample for the study was meticulously drawn from a comprehensive population comprising of ceramic and fashion lecturers, ceramic and fashion students, as well as non-ceramic and fashion students of Takoradi Technical University. The choice of this target population was grounded in its strategic relevance to the study's objectives.

2.3 Sampling techniques

The population was stratified into three distinct groups: ceramic and fashion lecturers, ceramic and fashion students, and non-ceramic and fashion students. Stratification was based on the participants' affiliation with either the ceramic and fashion disciplines or their non-affiliation. This approach allowed for the creation of homogeneous subgroups within the larger population, acknowledging the unique perspectives and experiences associated with each stratum. Within each stratum, a random sampling method was employed to select participants. For ceramic and fashion lecturers, students, and non-ceramic and fashion students, individuals were randomly chosen from the respective stratum to participate in the study. This ensured that the sample drawn for each subgroup was representative of the larger population within that stratum. The study covered ceramic and fashion lecturers (15), ceramic and fashion students (35), and non-ceramic and fashion students (55).

2.4 Sample size

Target group	Sample size
Fashion lecturers	15
Ceramic and fashion students	35
non-ceramic and fashion students	55
Total	105

The study employed a stratified sample size of 105 out of a targeted population of 142 from three groups in Takoradi Technical Yamane Taro (1967), recommended formula was used to calculate the sample size.

$$n = \frac{N}{(1 + N(e)^2)}$$

where n = the sample size, N = total population, e = margin of error (5%) and 1 = constant.

$$n = \frac{142}{1 + 422(0.05)^2} = 105$$

2.5 Research instruments

A structured questionnaire and interview guide was used to gather information. The questionnaire was subjected to a reliability test with Cronbach's alpha, and it resulted in a reliability coefficient of 0.82 (82%) which was above the recommended minimum of 0.7 [12].

The respondents (Ceramic, fashion, non-ceramic and non-fashion students were given a self-administered questionnaire. The researcher also conducted interviews with lectures at their convenient locations. The respondents' anonymity was protected.

2.6 Data analysis

The gathered data was analyzed using both quantitative and qualitative methods. The Statistical Package for Social Sciences (SPSS) version 27 software was used to clean, code, and input the self-administered survey data for analysis. These themes were coded, and the coding process was systematically conducted using qualitative analysis software like Aachen Text Laboratory Atlas for Systematic Text Interpretation. (ATLAS.ti.) [14].

3 Results and discussions

3.1 Demographic characteristics of respondents

This section of the study looks at the age, gender, marital status, educational background, designation and the number of years worked as a ceramic or fashion designer.

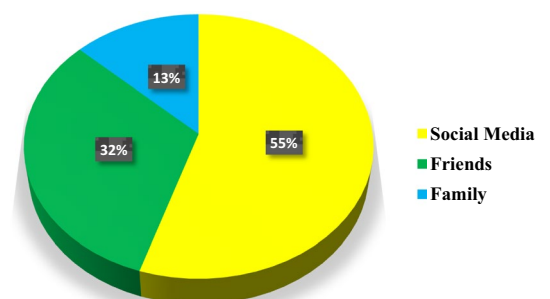
Table 1 outlines the demographic characteristics of the participants, revealing a higher representation of female respondents, constituting 57% compared to their male counterparts at 43%. Regarding age distribution, the largest segment, comprising 38% of respondents, fell within the 29–39 age range, followed by the 18–28 age group. Educational backgrounds varied, with 38% holding an HND, 34% possessing a Degree, and 14% having a Master's Degree. The survey also inquired about marital status to explore potential influences on preferences in pottery and clothing. The data showed that 67% of respondents were single, while 33% were married, indicating a predominant

Table 1 Demographic data of respondents

Characteristics	Frequency	Percent
Gender		
Male	40	38
Female	65	62
Total	105	100
Age		
18–28	30	29
29–39	40	38
40–49	25	24
50 and above	10	9
Total	105	100
Marital status		
Married	35	33
Single	70	67
Total	105	100
Educational background		
Intermediate	15	14
HND	40	38
Degree	35	35
Masters	15	14
Total	105	100
Designation		
Ceramic and Fashion designer(lecturer)	15	14
Ceramic and Fashion student	35	34
Non-ceramic and fashion designer	55	52
Total	105	100
Number of years worked as a designer (Ceramic Or Fashion)		
1–5	14	13
6–10	44	42
11–15	35	34
16 and above	12	11
Total	105	100

Source: Field data, 2023

Fig. 1 Influence on indigenous pottery and fashion trends



single status among participants. This demographic information serves as a foundation for understanding the diverse perspectives within the respondent group.

3.2 Ascertaining the influence of technology on indigenous pottery and fashion trends

The analysis in Fig. 1 reveals that among the 105 respondents, the majority, specifically 58 individuals, constituting 55%, indicated that social media significantly impacted their choices in pottery and fashion trends. Following closely, 34 respondents (32%) attributed their influence to friends, while approximately 13% of the participants, totaling 13 individuals, acknowledged the influence of family on their pottery and fashion preferences. This aligns with Sellors' [13] findings, which emphasised the substantial impact of social networks on consumer behavior [13]. Survey highlighted that a noteworthy portion of shoppers are influenced by social sites and friends during holiday shopping. Moreover, the survey indicated that 30% of shoppers had made purchases through social media, 49% were planning to make purchases due to social referrals, and 44% intended to discover new products via social networks. Social media platforms such as Facebook, Twitter, Instagram, and Tumblr were identified as pivotal players in shaping ceramic and fashion trends, according to Sellors [13].

The results from the interview on the impact of modern technology on traditional fashion techniques indicated that digital platforms and social media have transformed the landscape of indigenous pottery and fashion in Ghana by significantly boosting visibility and preservation efforts. Platforms such as Instagram and Facebook enable Ghanaian designers to showcase their creations globally, fostering international recognition. These platforms also cultivate online communities dedicated to indigenous fashion, promoting collaboration and a shared commitment to preserving traditional styles. E-commerce opportunities on online marketplaces contribute to the global accessibility of products, supporting local artisans economically. Social media serves as a powerful tool for cultural education, enlightening audiences about the historical and cultural significance of Ghanaian indigenous fashion. Digital archives play a crucial role in documenting traditional designs and techniques, ensuring the continuity of Ghana's sartorial heritage. Collaborations with influencers enhance visibility, introducing traditional garments to diverse audiences. Real-time trend awareness facilitates the seamless integration of contemporary elements into indigenous fashion. Interactive engagement on digital platforms allows designers to connect with their audience, receive feedback, and involve followers in the creative process.

3.3 Uses of technology in developing indigenous pottery and fashion trends in Ghana

The results from Table 2 suggest that 81% of the respondents agreed that technology allows access to other cultural pottery and fashion trends, whilst 5% of the respondents were ambivalent on the issue. 14% of them, on the contrary, expressed disagreement on the subject. Concerning whether the use of computers allow easy and creative ceramic and fashion design products, the majority (83.8%) of the respondents agreed that the use of computers allow easy and creative ceramic and fashion designs. 6.67% of the respondents expressed ambivalence on the subject matter whereas 9.52 of the respondents disagreed. Again, from the table, it can be observed that 90% of the respondents agreed that technology provides easy access to information and marketing of new ceramic and fashion trends. 2.8% of the respondents were unsure whilst 6.67 disagreed to that technology provides easy access to information and marketing of new ceramic and fashion trends. Overall, these findings shed light on the multifaceted impact of technology in shaping and advancing trends in the fields of ceramics and fashion, emphasizing its role in fostering creativity, facilitating access to diverse influences, and streamlining production processes.

Table 2 Uses of technology in developing ceramic and fashion trends

	Agree n (%)	Not sure n (%)	Disagree n (%)
Technology allows access to other cultural pottery and fashion trends	85 (81)	5 (5)	15 (14)
Indigenous pottery and fashion designer's technology to bench mark foreigner ceramic and fashion trends	95 (90.5)	7 (6.67)	3 (2.84)
The use of computer's allows easy and creative ceramic and fashion designs	88 (83.8)	7 (6.67)	10 (9.52)
Technology provides easy access to information and marketing of new ceramic and fashion trends	95 (90)	3 (2.8)	7 (6.67)
Availability of software makes fast and easy production of ceramic and fashion products	85 (81)	8 (7.6)	12 (11.4)

Source: field data 2023

Fig. 2 Technology allows access to other ceramic and fashion trends

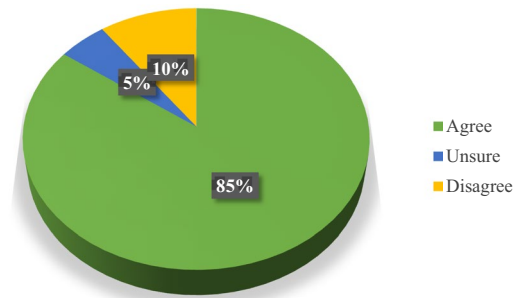
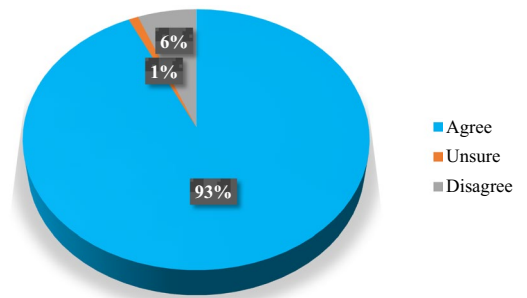


Fig. 3 Availability of software makes fast and easy production of ceramic and fashion products



The results from the interview on the use of modern technology on traditional pottery and fashion techniques indicated that the respondent emphasises the adoption of computer-aided designs (CAD) by ceramic students in Ghana's tertiary education. This adoption allows for the creation of blended traditional designs in the Ghanaian ceramic industry. Notably, modern technology has transformed the traditional methods of making pottery wares, affecting shapes, forms, and even the extraction of clay. In relation to technological integration in indigenous pottery production, the response highlights the use of computer software like AutoCAD or CorelDRAW for designing, modern electric potter's wheels for shaping objects, machinery such as excavators for clay extraction, and the use of modern glazes and electric kilns for decorating and firing pottery wares. These technological interventions have altered traditional practices, impacting both processes and cultural rituals associated with pottery making. The response suggests that while technology has improved aesthetic qualities with blended designs, it has also led to the extinction of certain traditional designs, patterns, and decorations. The response affirms that technologically influenced pottery items, especially those produced by ceramic students at the tertiary level, are both produced and patronized more than traditional items.

3.4 Relevance of technology to the development of indigenous pottery and fashion trends

This section attempts to identify the relevance of technology to the development of indigenous pottery and fashion trends.

Figure 2 captures the views of respondents on whether or not technology allows access to other ceramic and fashion trends. It can be seen that the large number of respondents (85%) agreed that technology allows access to other ceramic and fashion trends whereas 10% of them were ambivalent. 5% of the respondents however expressed disagreement.

From Figure 3, it is evident that the majority of the respondents agreed that the availability of software makes fast and easy production of ceramic and fashion products. That is to say, an overwhelming 93% of respondents answered in the affirmative while 6% disagreed and the remaining 1% remained unsure.

4 Conclusion and recommendation

The study revealed that the availability and exposure to technologies in the twenty-first century has had a major influence in indigenous pottery and choice of clothing in the Ghanaian society. The collective evidence from results underscores the transformative impact of digital platforms and technology in shaping perceptions, practices, and preferences within the indigenous pottery and fashion domains. The synergy of social media and technological tools emerges as a driving force

behind the evolution of these creative industries, offering unprecedented opportunities for global exposure, economic growth, and cultural preservation.

It is recommended that embracing and leveraging digital platforms and technology is crucial for the continued growth and preservation of indigenous pottery and fashion trend. Stakeholders in these creative industries should strategically harness the synergy of social media and technological tools to enhance global exposure, foster economic growth, and ensure the preservation of cultural heritage. Initiatives supporting the integration of technology into traditional practices and encouraging innovative collaborations with digital platforms can further propel these industries into a sustainable and dynamic future.

Author contributions OOM and KAK wrote the main manuscript and CNDD assisted in preparation of the tables and the figures. All authors reviewed the manuscript.

Data availability Not applicable.

Declarations

Competing interests The authors declare no competing interests.

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