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RESEARCH PAPER

Examining the structure of the fashion industry in Ghana in ensuring the successful adoption of sustainable approach

Akosua Mawuse Amankwah^{1*}, Edward Appiah², Charles Frimpong¹, Anthony Kent³

1. Dept. of Industrial Art, Faculty of Art, Kwame Nkrumah University of Science & Technology, Ghana

2. Dept. Communication Design, Faculty of Art, Kwame Nkrumah University of Science & Technology, Ghana

3. School of Art & Design, Nottingham Trent University, Nottingham United Kingdom

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Abstract. The structure of the fashion industry in various geographical regions, along with its production history and practices, plays a pivotal role in shaping the adoption and implementation of sustainable strategies. This study examines the fashion industry's structure in Ghana as a fundamental step in considering the adoption and implementation of sustainable strategies. To facilitate the selection of respondents for this preliminary study, we employed a Google survey, utilizing a snowball technique to identify participations in the two major cities in Ghana. The survey specifically targeted fashion producers operating within the small and medium-sized enterprises (SMEs) with retail outlets. Collected data from Google Forms were collated with Microsoft Excel and subsequently analyzed. The findings unveiled that young businesses often operate as sole proprietorship, with their founders serving as lead designers, primarily selling directly to end users. While previous studies have documented similar findings, this study connects these observations to the adoption of sustainable strategies in businesses where owners, who also serve as creative heads, make significant decisions that can influence the practice of sustainable strategies. Furthermore, the study highlights that sustainability and sustainable practices are relatively new to SMEs in Ghana. It recommends further research to gauge the awareness and willingness to adopt circular strategies, given the industry towards industrialization.

Keywords: Fashion industry; structure; production practices; sustainability; sustainable strategies; circular economy

1. Introduction

The textiles and clothing sector play a substantial role of the global economy, and the fashion industry is notably one of the largest industrial segments worldwide ([Mukherjee, 2015](#)). Developing countries, mainly in Asia, particularly China, dominate a significant portion of this sector, contributing to about half of global export. The manufacturing of textiles for clothing primarily occurs in these developing countries ([WRAP, 2012](#)). The fashion industry operates on a

*Corresponding author. E-mail: mawusepaaku@gmail.com

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global level with a complex supply chain, divided into large, medium, and small to micro-scale industries, where Small to Medium-scale Enterprises (SMEs) have a prominent role. According to the International Finance Corporation ([IFC, 2012](#)), SMEs represent approximately 90 percent of businesses and over 50 percent of global workforce. The report highlights that SMEs serve as key drivers of job creation and economic growth in developing countries like Ghana. As a developing economy involve in fashion production, it is crucial for producers looking to expand their production to pay attention to sustainability issues and implementation of sustainable strategies (SS).

The global fashion industry's follows a linear production, consumption, and disposal model (take, make, waste), which poses significant environmental challenges ([Ellen MacArthur Foundation, 2010](#); [Gwilt & Rissanen, 2011](#)). The conscious effort to modify the complex supply chain structure while maximizing profit has proven to be a major challenge. The fashion industry has gained notoriety for its environmental degradation, reaching alarming levels ([Bick et al., 2018](#)). These linear models employed by the industry have pressing environmental and social concerns, in contrasting with the United Nations' sustainability agenda. The United Nations' 17 Sustainable Development Goals, guiding global development until 2030, include SDG 12: Responsible Consumption and Production, a pivotal driver for sustainable practices in the fashion industry. A major issue in fashion production is the over-reliance on virgin raw materials. To address this, the circular economy (CE) promoted by the Ellen MacArthur Foundation is considered critical in championing sustainable production in the fashion industry ([Ellen MacArthur Foundation, 2015](#); [Kirchherr et al., 2017](#); [Koszewska, 2018](#)).

Nevertheless, the fashion industry in Ghana remains less advanced compared to its counterparts in developed economies. The local industry is currently preparing for industrialization, resulting in a simpler supply chain, partly due to gaps in the local value chain. Despite its global capital contributions, the local industry still adheres to a linear model, contributing to the adverse impact of the global fashion industry. Recognizing the critical role of business structure in sustainability practices ([Claxton & Kent, 2017](#)), this study seeks to examining fashion business ownership, functions, and operations, their influence the adoption and implementation of circular strategies in Ghana.

2. The Review

2.1. An overview of current sustainability concerns in fashion industry practice

The fashion industry is generally organized into four independents yet interconnected levels encompassing primary, secondary, retail, and auxiliary. These levels together constitute a complex supply chain that distinguishes it from other industries ([Boone, 2009](#); [DEFRA, 2011](#); [Lehmann et al., 2018](#)). A comprehensive analysis by Bhardwaj and Fairhurst (2010) have conducted an extensive analysis of the transformative effects fast fashion had on the industry. In addition to its complexity, researchers have highlighted the industry's adverse environmental and social impacts ([Allwood et al., 2006](#); [Karell & Niinimäki, 2020](#); [Koszewska, 2018](#); [Kozłowski et al., 2016](#); [Lehmann et al., 2018](#)).

Similar to the industry's operations, there exist sustainability concerns that require both local and global management efforts from all nations ([Bhamra, 2013](#)). Given prevalence of SMEs in the Ghana's garment production sector ([Ghana Statistical Service, 2015](#); [Japan International Cooperation Agency, 2008](#)), Williamson et al. (2006) argued that there is a lack of data regarding the environmental footprint and damage attributable to SMEs. Nevertheless, considering the multitude of small-scale activities, their cumulative impact could be substantial.

Sustainability issues are prevalent within the fashion industry owing to their enormous environmental and social impact on consumers and all industry stakeholders. Consequently, a majority of companies, both large and small, are embracing sustainability practice ([Kozłowski et al., 2018](#); [Shields & Shelleman, 2015](#)). [Kozłowski et al. \(2018\)](#) have argued that over the past decade, there has been a growing awareness of sustainability's environmental and social impacts,

leading to extensive research into sustainable strategies. The term 'sustainable strategy' encompasses various models and classifications aimed at achieving sustainability ([Bocken et al., 2014](#); [Cooper et al., 2013](#); [Gwilt & Rissanen, 2011](#); [Niinimäki, 2015, 2018](#)). There has been an call for a significant transformation of the system ([Environmental Audit Committee, 2019](#); [Kozłowski et al., 2016](#); [Lehmann et al., 2018](#)).

Sustainable design, also called eco-design, green design, and environmental design, involves a philosophy of creating physical objects, the built environment, and services in alignment with the principles of sustainability, encompassing environmental, economic, and social aspects ([Murray, 2013](#)). One of the approaches for systematic transformation is the concept of the circular economy ([Ellen MacArthur Foundation, 2010](#); [WRAP, 2017](#)), characterized by its three core principles: of reduce, reuse, and recycle. The way in which companies adopt and implement these principles contingent upon their organizational structure and business goals. Therefore, the circular economy is regarded as more comprehensive approach, as it incorporates both the environmental and social dimensions of sustainability ([Bocken et al., 2014](#)).

2.2. Sustainability perspectives in fashion industry: The designer influence

An increasing number of fashion and clothing brands, spanning various sizes and geographic locations, are responding to the call for change within the fashion industry ([Karell & Niinimäki, 2020](#)). Sustainable business strategies are steadily gaining prominence ([Shields & Shelleman, 2015](#)). While, extensive literature primarily focuses on large-scale enterprises, there has been relatively little attention directed toward small to SMEs ([Ates & Bititci, 2011](#)). However, given disparities in their operational capacities, sustainability issues in the fashion industry may impact these enterprises in distinct ways. Additionally, there is currently insufficient compelling evidence to suggest that sustainability strategies implemented by large companies are viable for SMEs ([Sloan et al., 2013](#)).

Within the context of fashion businesses, the approach to sustainability can significantly vary between mainstream and niche fashion brands due to various organizational and managerial factors ([Claxton & Kent, 2017](#)). While there exists a general sequence of activities in this domain ([Gwilt & Rissanen, 2011](#)), a modern fashion designer is expected to wear multiple hats. They must not only design but also serve as a market researcher, exploring visual and qualitative data, analyzing collected information, interpreting meanings, and engaging in the complexities of decision making process ([Sinha, 2002](#)). The definition of contemporary fashion designer influenced by several factors, including their experience, the company they are associated with, the type of garments they create, and the constraints imposed during the design process ([Stecker, 1996](#)). This perspective aligns with the argument that, especially in small designer-led businesses, the designer can occupy a central role in creative process ([Claxton & Kent, 2020, 2017](#)). This affirms the notion that the designer must the authority necessary through the alignment of business culture, objectives, structure, and processes ([Curwen et al., 2013](#)).

Numerous authors have highlighted how the designers can exert significant influence on sustainability during the early phases of product design ([Gwilt & Rissanen, 2011](#); [Koszewska, 2018](#); [Murray, 2013](#)). It has been observed that as much as "80% of a product's environmental and social impacts throughout its entire life-cycle", can be shaped during the phase of product design and development phase ([Murray, 2013](#); [Tischner & Charter, 2001](#)). [Kozłowski et al. \(2018\)](#) have stressed the pivotal role played by fashion designers as catalyst for change in the transition toward a more sustainable fashion industry. Considering that materials, especially textile production, hold significant contribution to environmental sustainability, the selection of raw materials ([Lehmann et al., 2018](#)) can determine up to half of a fashion brand's environmental footprint. This necessitates proactive decision-making in the early stages of production to ensure sustainability.

2.3. The framework of this study

This study build upon [Claxton and Kent's \(2017\)](#) concept regarding the potential for designers to assume a central role in design activities within small designer-led businesses, establishing it as a foundational idea. Furthermore, it incorporates the innovative design-driven sustainable business model developed by [Kozlowski et al. \(2019\)](#) as a guiding framework for the study's analysis. They have identified four significant obstacles to the integration of sustainability into the design process, including company capacity and mindset, industry practices and norms, consumer behavior and expectation, and technological constraints. In this study, our focus centers on company capacity, and industry practices and norms.

Expanding on the work of [Meadows \(2008\)](#), it becomes essential to examine the inherent elements within the structure of small designer-led businesses and evaluate how these elements collectively influence the adoption and implementation of sustainable strategies in Ghana. Figure 1 illustrates the adapted framework based on [Meadows \(2008\)](#) and [Kozlowski et al. \(2019\)](#).

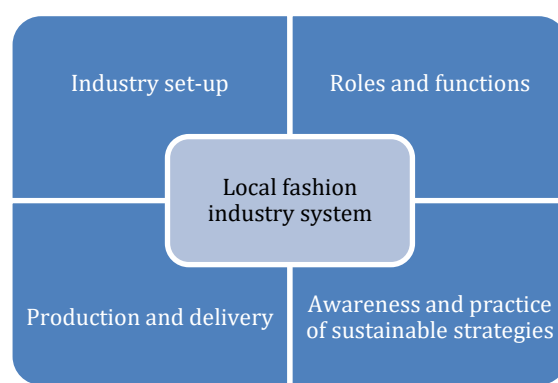


Figure 1. Thinking in fashion system, adapted framework from [Meadows \(2008\)](#) and [Kozlowski et al. \(2019\)](#)

[Meadows \(2008\)](#) defines a system as a cohesive arrangement of interconnected components designed to achieve specific objectives, leading to consistent and enduring patterns of behavior. Essentially, Figure 1 illustrates the interconnected components within the domain of fashion production, particularly within the context of the Ghanaian industry. Consequently, once this framework is identified and comprehended, it will facilitate the recognition of underlying patterns in operational behavior ([Meadows, 2008](#)) and guide necessary action to enhance these patterns toward sustainability. In broader terms, the four components illustrated in Figure 1 provide insights into the typical operational practices of garment producers in Ghana, their involvement in sustainable strategies, and the opportunities accessible to local producers. This forms the foundational basis for the study's analysis.

3. Methodology

This study aimed to uncover the fundamental structure of the Ghanaian fashion industry to facilitate the selection of targeted respondents for ongoing research. Given the predominance of micro, SMEs in this industry, a quantitative case study approach was employed to explain prevalent practices and assess the willingness of respondents to engage in further investigations. [Yin \(2018\)](#), when numeric evidence is essential, a quantitative approach within a case study framework is a viable choice.

The data analysis phase of the study occurred between May and November 2021. Closed-ended questions were designed to collect respondent background information, their roles within their firm, basic firm details, including size and sector of operation, types and sources of fabrics

used, and their awareness of and engagement in sustainable strategies. The survey primarily targeted fashion producers with at least a basic education, operating in the two main regions of Ghana, who own and manage their firms. This approach aimed to assess their current production strategies and their awareness of sustainable fashion in preparation for the implementation of a circular approach. The structure of these firms was deemed relevant in this context.

Since data collection took place during the Covid-19 pandemic, Google Forms served as the data collection platform. A purposive sampling strategy (Maxwell, 2013) was employed to ensure data collection from garment producers with formal education, as certain questions were deemed technical. Consequently, a snowball technique (Cohen et al., 2007) was employed, wherein respondents were asked to identify and forward questions to other qualified respondents. Initial respondents were known to the researchers and subsequently provided data from several other respondents. In total, 104 respondents were contacted, of which 84 responses were recorded.

While the survey was originally intended for the two major regions in Ghana (Accra and Kumasi), some responses were identified as originating from Ho and Takoradi, both in the Volta and Western regions of Ghana, accounting for a total of 4 (5.2%) and 1 (1.3%) response, respectively. The results have been categorized into four major areas and are presented and discussed in the following sections.

4. Results

4.1. Demography information of respondents

The primary objective of the survey was to determine business ownership and functions and how these factors influence the implementation of circular strategies in Ghana. As illustrated in Table 1, it is notable that the majority of respondents (54.50%) hold a first-degree education. Although education was not the central focus of this study, the significant proportion of respondents with higher education levels contributes to a better understanding of the prevalent challenges facing the fashion industry, both within in Ghana and on a global scale.

Table 1. Demography information of respondents

Item	Frequency	Percentage
Educational background		
Basic	6	7.80
Secondary	12	15.60
Diploma	5	6.50
1 st degree	42	54.50
2 nd degree	11	14.30
None	1	1.30
Founder		
Myself	44	57.1
Partnership	4	5.2
other	29	37.66
Position in firm		
Creative director	55	71.4
Pattern designer	7	9.10
Production manager	9	11.60
Marketing manager	2	2.60
CEO	3	3.90
Role description		
Designer	27	35.10
Producer	1	1.30
Designer/producer	49	63.60
Designer approach		
Apparel designer	24	31.20
Fashion designer	53	68.80

After examining the educational backgrounds, the survey moves forward to identify the founder or owners of the firms, their current roles, job responsibilities, and their design approach. This data is presented in Table 1.

When asked about the business type, it was evident that 57.1% of respondents established their firm as sole proprietors, whereas 5.2% and 37.66 % opted for partnership and alternative methods of establishment, respectively. This verifies the findings in the [Ghana Statistical Service \(2015\)](#) report, which also indicated that the majority of fashion enterprises in Ghana are primarily owned by sole proprietors.

Furthermore, enquiring about the role played by the respondents, 71.4% of respondents indicated that they held the role of Creative Directors within their companies, while 9.10% were engaged in pattern design, and only 11.6% confirmed their role as production manager. In terms of role description, 35.10% identify themselves as designers, 1.30% as producers, and 63.60% as both designers and producers. Results concerning the designers' approach indicated that 68.8% view themselves as fashion designers, while 31.20% perceive their approach as apparel designers.

4.2. Profiling the fashion industry in Ghana: Industry set-up

Following the examination of the roles and responsibility of the participants, it became imperative to investigate factors like firm location, business scale, duration of operation, and the type of products they offer. These elements play a crucial role in characterizing the industry's structure as they have a significant influence on the company's operations ([Minai & Lucky, 2011](#)) and its contributions to sustainability. The following section provides an overview of these factors within the context of Ghana's fashion industry.

Location of the firms

The analysis of the study revealed that the majority of the company were situated in Accra, comprising 71.4% of the total, followed by 22.1% in Kumasi, 5.2% in Ho, and 1.3% in Takoradi. It is worth noting that Ho and Takoradi were considered as outlier responses since they were not within the survey's intended target area. The combined total percentage of respondents from these two cities was minimal and does not significantly impact the overall survey results. On the other hand, Accra and Kumasi have been confirmed as the two major hubs of garment producers in Ghana ([GSS, 2015](#); [IICA, 2008](#)).

Length of business operation

The duration of a firm's operation can provide insights into its sustainability practices, and this factor was a consideration in the survey. The findings showed that 40.3% of respondents had been in operation for 1-5 years, 39.0% for 6-10 years, 15.6% for 11-15 years, 1.3% for 16-20 years, and 3.9% for 20 years and more. Significantly, 79.3% of firms engaged in the survey have been operation in last decade, implying a significant young sector of the fashion industry in Ghana.

Business scale

The scale of a firm significantly influences the adoption of circular strategies. This study indicated that 64.9% of company in this study are micro-sized firms, while 27.3% representing small-scale enterprises. Medium-sized business make up 5.2%, and large-scale firms account for 2.6%. These findings align with recent reports on the fashion sector in Ghana ([GSS, 2015](#); [IICA, 2008](#)), which highlighted the predominance of micro and small-scale fashion firms in Ghana. In this study only 32.5% could be classified as SMEs.

Business sector operation

The industry's operational sector is a crucial element of its structure and contributes to the implementation of policies and strategies ([Minai & Lucky, 2011](#); [Thorisdottir & Johannsdottir, 2019](#)). When asked about the sector of operation, the majority of respondents (61.00%)

confirmed that they operated informally. A young industry with a significant number operating informally could impact on sustainability efforts.

Production process and strategies in the Ghanaian fashion industry

The effective execution of sustainable strategies primarily depends on the production processes. This section presents findings related to textiles and their sources, production sites and modules, energy sources, and distribution channels. Analyzing how these components interact highlights the fundamental patterns and their influence on the adoption of sustainable strategies.

Table 2. Factors impacting on garment production

Item	Frequency	Percentage
Fabric mostly used		
Cotton	23	29.90
Polyesters	0	0.00
Both	54	70.10
None	0	0.00
Fabric source		
Locally made fabrics	13	16.90
Imported fabrics on open market	19	24.70
Both	44	57.10
Missing	1	1.30
Production module		
Custom-made	55	71.40
Ready-to-wear	15	19.50
Mass production	6	7.80
Missing	1	1.30
Production location		
Onshore	62	80.50
Offshore	5	6.50
Both	7	9.10
Missing	3	3.90
Source of energy		
Electricity	74	96.10
Solar	3	3.90
Delivery channel		
Direct-to-customer	55	71.40
Own retail outlet	3	3.90
Both	18	23.40
Missing	1	1.30

Table 2 provides insights into the preferred fabrics used for garment production according to the survey. The predominant choice is a combination of cotton and polyester blends, accounting for 70.10%, followed by pure cotton at 29.90%. Interestingly, there was a limited use of polyester fabrics among respondents. When it comes to fabric sourcing, 57.10% of respondents utilized both imported and domestically produced fabrics. It was worth noting that a higher proportion of companies (24.70%) sourced imported fabrics from the open market compared to those who relied on locally produced fabrics (16.90%). Garment manufacturers often complemented their supply of local fabrics with imported ones for their material requirements. The fact that a substantial 70.10% of respondents used both cotton and polyesters blends, mirroring 57.10%

preference for imported fabrics, suggests that the majority of fabrics used for garment production in Ghana consists of blends that were primarily imported.

According to this study, for 71.4% of respondents, custom-made was the preferred module of production. Furthermore, the majority of garments (80.5%) were manufactured domestically. Additionally, the primary energy source for local production is generated by electricity (96.10%), while the remaining used solar energy. Although hydro power generation faces occasional challenges due to water levels fluctuations, it is considered a cleaner option than crude oil. After production, the garments were mainly delivered directly to customer, accounting for 71.40%, while 3.90% were sold through the brand’s own retail outlet, and 23.40% employed a combination of both direct -to- customer and other distribution methods like courier services.

4.3. Awareness and prioritization of sustainable fashion: Survey findings

The final section of the survey aimed to assess respondents’ awareness and sustainable strategies relevant to their respective companies. As illustrated in Figure 2, among the 84 respondents, a significant portion of respondent (31 responses or 40.30%) considered themselves to have an average level of awareness of sustainable strategies, followed by 23 respondents (29.90%) who reported having a good level of awareness. This suggests that the majority of garment producers in Ghana possess knowledge about sustainable fashion. Such awareness is an important initial step toward its successful implementation.

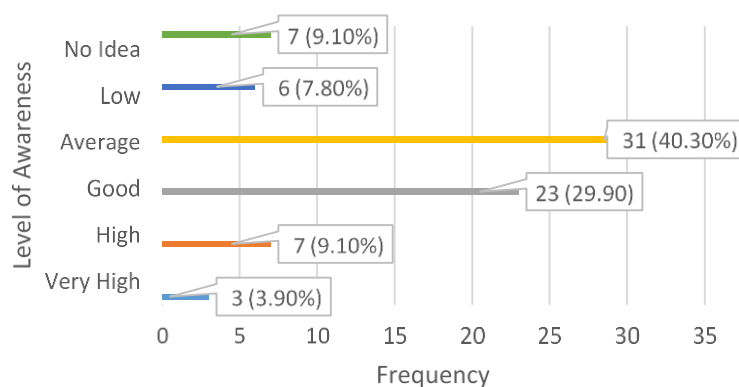


Figure 2. Awareness of sustainable fashion among respondents

As depicted in Figure 3, the data reveals that the majority of respondents expressed views through to three categories: a strong agreement on the importance of sustainable fashion issues (26 responses or 33.80%), agreement (27 responses or 35.10%), and neutral (16 responses or 20.80%). This outcome emphasizes that the most respondents acknowledge and value the importance of sustainable fashion. They were not only aware of sustainable fashion, but also consider its associated matters as crucial.

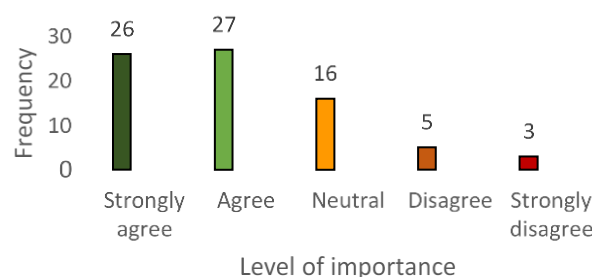


Figure 3. Importance of issues on sustainable fashion among respondents

While Figure 2 and 3 show that most respondents were aware of and recognized the importance of sustainable fashion and related issues, Figure 4 reveals their prioritization of strategies for their firms. In this context, customization emerged as the most favored strategy, with 26 respondents (33.8%) selecting as their top choice, followed by timeless design, which garnered 24 respondents (31.2%). Transformable design and design for longevity both had 5 respondents each, accounting for 6.5% each. Multifunctional design garnered 3 responses (3.9%), while design for repair received 2 responses (2.6%).

The remaining strategies, including zero-waste design, slow fashion, redesign/upcycling, emotional durability, design for reuse, and design for recycling, each received 1 response, representing 1.3% of the total. However, it is important to note that 6 responses (7.8) were missing from the data.

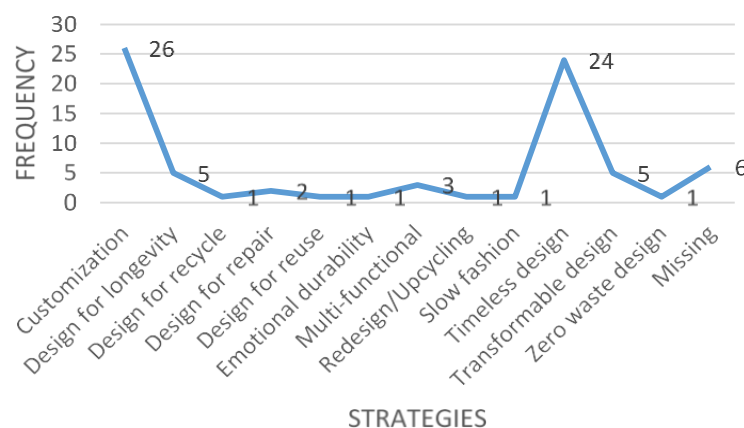


Figure 4. Highest strategy applicable to firms.

5. Discussion

This section discusses four emerging themes regarding the results of the study to include: Impact of designers' role and approach; Industry set-up and the adoption of sustainable approach; Influence of delivery model of fashion SMEs on sustainable approach; and Prioritization of sustainable fashion. These themes shed light on the structure of fashion SMEs in Ghana, and the impact on successful adoption of sustainable approach.

5.1. Impact of Designers' role and approach

This study affirms the notion that majority of fashion industry founders often assume the role of creative leadership within their firms and play a central role as designer in their organization. They typically involve themselves in both design and production aspects of their fashion products. As the owners and creative leaders of their business, they actively oversee the production of their designed garments and coordinate the entire development process. Certainly, they possess the authority to align business culture, objectives, structure, and processes, as emphasized by [Curwen et al. \(2013\)](#), particularly in the context of adopting and implementing sustainable strategies.

Given that the majority of respondents identify themselves as fashion designers rather than apparel designers, certain factors like trends and the practice of sustainable strategies ([Hur & Cassidy, 2019](#)) become notably important in the process of adoption and implementation of these strategies. It's crucial to highlight that, unlike the Western design approach, consumers in Ghana exert a direct and substantial influence the fashion design process, including material choices,

style, and aesthetics. This direct involvement of consumers can significantly impact the decisions made by designers regarding the final garments they create.

As a result, while local designers maintain a high level of creative autonomy, consumers' direct participation in the process can significantly influence the adoption and implementation of sustainable strategies. Through direct communication with the creative leaders of these companies, consumers can actively contribute their preferred strategies, aligning them with the objectives of the company.

On the other hand, a few firms operating on a purely ready-to-wear module, serving a relatively smaller customer base compared to more advanced fashion markets, closely monitor their product offerings. They can swiftly adapt to emerging customer preferences in real-time, particularly because their production facilities are situated in close proximity to retail outlets.

5.2. Industry set-up and the adoption of sustainable approach

The location of the company is a crucial element ([Kimelberg & Williams, 2013](#); [Minai & Lucky, 2011](#)) within the local fashion system, as it significantly influences the selection and production techniques and the required production volumes based on a company's target population. Accra and Kumasi, in particular, are home to major businesses and higher educational institutions engaged in a wide range of activities that influence the production of specific fashion products to meet market demand. Therefore, sustainability issues in these areas cannot be overlooked.

The adoption and implementation of sustainable strategies within the company are significantly influenced by its structure, processes, location, and business objectives. In regions where retail outlets are on the rise, a culture of bespoke/made-to-measure production models continues to coexist with products designed for retail shops. This phenomenon is presently being investigated in Ghana by the authors to examine the existing models of firms and evaluate their implications for sustainability and strategies adoption.

It is noteworthy that the fashion industry in Ghana has experienced growth and evolution in recent years. Sustainability issues have gained global prominence over the past decade. Interestingly, the majority of fashion businesses in Ghana were established within the last decade, as indicated by the result of the study. Therefore, it is imperative for fashion firms in Ghana to align business practices with sustainability and incorporate sustainable strategies ([Thorisdottir & Johannsdottir, 2019](#)) as the local fashion industry continues to evolve. Fashion firms should make deliberate efforts to incorporate these principles into their operations.

Although there is no quantifiable evidence regarding the waste generation of these firms, Williamson et al. (2006) suggest that cumulative impact of numerous small-scale activities could be significant. However, with the growing number of small to medium scale firms, business owners, who often serve as designers and producers, are in a better position to identify unsustainable practices and systemic issues, whether positive or negative. This enables them to make the necessary adjustments to facilitate the adoption and implementation of sustainable strategies.

Moreover, the firm sizes and their production capacities play a crucial role in determining the required skill levels for specific tasks. The adoption of particular strategies should align with the company's size and availability of relevant skills. It is important to examine the availability of skills specific to these strategies and other operational requirements. Notably, the skill gap has been identified as a significant challenge in the Ghanaian fashion industry ([Senayah, 2018](#)), and this has had a great impact negatively on the quality of products.

An industry characterized by a high number of micro-firms, many of which operate informally, presents managerial challenges due to structural and procedural gaps. Being a fashion designer entails not only artistic skills, but also the ability to function as a market researcher, analyzing visual and qualitative data, interpreting meanings, and engaging in extensive decision-making process ([Sinha, 2002](#)). In this context, the designer's experience and the type of company they work for, become crucial ([Stecker, 1996](#)). However, these multifaceted responsibilities are

often missing in predominately composed micro to small firms, especially concerning sustainable practices. To address these gaps, further investigation into the business models of local firms is needed. Even though the business owners having an authority, as suggested by [Claxton and Kent \(2020, 2017\)](#), to align their processes and practices, they may lack the necessary experience and organizational structure to effectively handle the complexities of sustainability.

5.3. Influence of delivery model of fashion SMEs on sustainable approach

The majority of fabrics used for garment production in Ghana consists of blends that incorporate imported fabrics. This trend aligns with global practices that emphasize the utilization of polyesters and blended fabric in garment production ([Allwood et al., 2006](#); [WRAP, 2017](#)).

Beyond imported fabrics, there exist indigenous local textiles such as the famous Asante Kente, tie-die, and batik, among others. Nevertheless, the material components for crafting these fabrics are mostly imported, and the production methods are labor-intensive, relying heavily on manual techniques. This results in increased production cost and selling prices. The limited availability of these indigenous fabrics in large volumes impedes their usage for the mass-producing retail items, even though they are well-suited for small-scale production. In a less fashion-driven context like Ghana, fostering the development of indigenous fabrics and dyeing processes will lead to the potential for generating jobs and enhancing economic empowerment while promoting the culture of the people ([Kozlowski et al., 2019](#)). Additionally, there's an opportunity to cultivate specialized expertise in fabric production, leveraging the unique cultural richness of these indigenous fabrics. This will lead to diversify the availability of fabrics, albeit in limited designs, promoting the exclusivity of fashion brand products. These transformations would help reduce pressure on the global textile markets.

Designers possess the ability to influence sustainability during the early stages of the design process ([Koszevska, 2018](#)). As previously mentioned, local fashion producer hold the responsibility to influence the selection of materials, which can significantly contribute to reducing the environmental impact of fashion brand's across various industries ([Lehmann et al., 2018](#)). However, a constraint in making suitable fabric selection is the issue of availability. When faced with limited options, local producers can foster innovation through embracing strategies approaches such as disassembly, reuse and redesign which are embedded principles of the circular economy. The abundance of secondhand fashion garments on the local market could trigger the selection and recovery of unique materials from these products.

Also, the analysis emphasizes on local production and corresponding consumption. It is important to highlight that the majority of respondents favored for custom-made production methods, and the value was delivered directly to the customer, unlike the retail format commonly seen in more developed fashion markets. In Ghana, customers typically visit their preferred dressmaker to request a garment, often providing their own fabrics and personal body measurements, along with chosen style. The completed garment is then personally delivered to the customer, who collect it from the producer's workshop. Given the direct relationship with the customer, there is an opportunity to initiate conversations about sustainable strategies ([Thorisdottir & Johannsdottir, 2019](#)). This discussion can help identify and adopt strategies that align with both the company and its customers for mutual benefits. The strong preference for a custom-made product, combined with direct value delivery to the customer, and the predominantly local production of garment, holds significant implications for strategy implementation in Ghana. These factors place the customer at the center of consideration and decisions-making when the company is adopting a strategy. The deeply rooted practice of direct customer engagement in production process has the potential to influence the conventional retail model as customers could requests for modifications on selected retail pieces in preferred styles or fits. In this regard, the adoption of sustainable strategies, especially circular ones, could help minimize the volumes of unsold goods at the end of a selling season. As result, conducting a

comprehensive investigation is essential to understand the dynamics and outcomes of implementing sustainable strategies with this framework.

5.4. Prioritization of sustainable fashion

[Hur and Cassidy \(2019\)](#) emphasize that without commitment of sustainability in a company's comprehensive design principles, the practical application of sustainability becomes challenging. recognizing sustainability issues within the fashion producer is crucial for producers, as it guides them in selecting the most suitable strategies that align with their company's vision. Drawing from the assertion by [Hur and Cassidy \(2019\)](#), it can be argued that the extent to which one perceives the significance of sustainable fashion issues directly influences their willingness to embrace and implement a strategy. While various classifications of sustainable fashion have been proposed by researchers ([Bocken et al., 2014](#); [Cooper et al., 2013](#); [Gwilt & Rissanen, 2011](#); [Niinimäki, 2015, 2018](#)), some are considered as more transformative, such as the circular economy concept ([Ellen MacArthur Foundation, 2010](#)). This approach emphasizes strategies like repair, reuse, recycle.

From the analysis conducted, three strategies stood out as priorities: customization, timeless design, and transformable design. The fact that customization was the top choice aligns with earlier findings regarding the production module and delivery channels used by these firms as shown in Table 3. This preference may be attributed to the presence of fewer dominant large-scale firms that produce substantial volumes for distribution. Furthermore, the selection of timeless, design for longevity, and transformable designs as the second and third options can be attributed, in the authors' perspective, to the relatively less reliance on trends and the production seasonless style by this firm. Customers have the potential to wear their clothing for a long period, contingent on garment quality. Considering the prioritized strategies in Figure 4, circular strategies appeared less attractive, prompting the requirement for further investigation to uncover the underlying reasoning for their perceived lack of unattractiveness. Although customization, timeless design and multipurpose design were the most favored, the benefits of end-of-life strategies ([Claxton & Kent, 2020](#); [Ellen MacArthur Foundation, 2015](#); [Karell & Niinimäki, 2020](#)) that seek to prolong the lifespan of garments produced through the preferred strategies gathered from respond, are enormous.

Given that sustainability in fashion industry appears to be an unexplored research area in Ghana, the authors are currently conducting further research to shed light on various aspects of subject, including its social and cultural impacts.

6. Conclusion

The global fashion industry is actively to become more sustainable, with participation from business of all sizes, including large, medium, and small-scale businesses. However, the extent and approach to sustainability implementation vary depending on company size and structure. The structure of the fashion industry in Ghana mainly consists of micro to small-scale firms, primarily operating in the informal sector. Research have shown that the sustainability strategies employed by large-scale firms may not be directly applicable to small businesses.

Fashion business owners often wear multiple hats, serving as both creative leaders and producers, which grants them significant in decision-making authority in pursuit of sustainability goals. However, they face immediate challenges related to environmental factors such as material availability and awareness of material components. These perceived challenges could potentially hinder the adoption and implementation of sustainability strategies, especially those related to circularity, appeared to be less favored according to the survey. A study on the understanding of circular strategies and businesses' willingness to adopt these them is required. This research would uncover the reasons behind the apparent lack of interest in circular approaches, as indicated by this study, and identify necessary steps to encourage fashion businesses in Ghana to embrace circular practice.

[Koszewska \(2018\)](#) suggests that the transition to a circular model relies on the knowledge, awareness, and engagement of all stakeholders. It may be advisable to begin by focusing on formal businesses with established operational procedures, as this could serve as promising starting point for introducing sustainable strategies that might later be adopting by informal firms. While there is a significant drive towards strategies like customization, timeless design, and design for longevity, further research is needed to explore how these strategies are implemented and to align them in a sustainable manner for greater impact.

Ultimately, direct engagement with fashion businesses in Ghana provides valuable insights in to customer preferences for sustainable strategies and how businesses can align themselves for the effective implementation of selected strategies aimed at achieving sustainability.

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