

## INFLUENCE OF PACKAGING DESIGN AND MATERIAL SELECTION ON CONSUMER CHOICE, SAFETY AND QUALITY PRESERVATION OF FUGU PRODUCTS

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### ABSTRACT

This study examines the influence of packaging design and material selection on consumer choice, safety, and quality preservation of Fugu products in the Upper East Region of Ghana. As Fugu gains recognition in both local and international markets, effective packaging has become essential not only for product protection but also for enhancing its marketing value and consumer appeal. The study employed a mixed-methods approach using a sequential explanatory design. Quantitative data were collected from 140 respondents through structured questionnaires, while qualitative data were obtained from 17 participants using semi-structured interviews. The quantitative data were analyzed using descriptive statistics, and the qualitative data were analyzed thematically to provide deeper insights. The findings revealed that packaging design significantly influences consumer choice, with elements such as color, branding, cultural symbols, and visual appeal playing a key role in attracting customers and shaping purchasing decisions. Additionally, packaging materials were found to be critical in ensuring product safety and preserving the quality of Fugu garments during storage and transportation. The study also identified a growing preference for eco-friendly packaging materials due to increasing environmental awareness among consumers. However, challenges such as high cost, limited availability of quality materials, and supply inconsistencies were found to hinder effective packaging practices. The study concludes that packaging is a vital tool in fashion marketing and recommends the adoption of innovative, durable, and sustainable packaging solutions to enhance the competitiveness of Fugu products.

**Keywords:** Packaging design, packaging materials, consumer choice, Fugu, quality preservation.

### INTRODUCTION

The Fugu, a traditional handwoven garment from Northern Ghana, has evolved from a cultural symbol into a widely accepted fashion product with both national and international recognition. Its increasing popularity across different social groups has positioned it as an important component of Ghana's textile and fashion industry. Despite the influx of imported clothing, the Fugu industry continues to experience growth due to its cultural significance and unique craftsmanship (Abdulai, Adam, & Alhassan, 2016).

In modern fashion markets, packaging has become more than just a means of protecting products; it is now a critical marketing tool that influences consumer perception, brand identity, and purchasing decisions. Packaging serves as the first point of contact between the product and the consumer, making it essential in shaping impressions and communicating product value (Chinedu,

Christian, & Asemota, 2023). For traditional products like Fugu, packaging must not only ensure protection but also reflect the cultural heritage and craftsmanship embedded in the garment. In the context of Fugu production in Ghana, particularly in the Upper East Region, packaging practices have not been fully developed to meet modern market demands. Many producers rely on basic or rudimentary packaging methods, which limit the product's appeal, reduce its competitiveness, and may compromise its safety and quality during storage and transportation (Gyampo, 2018). This gap highlights the need to explore how improved packaging design and material selection can enhance both the functional and marketing value of Fugu products.

Packaging design elements such as color, texture, labeling, and cultural symbols play a significant role in influencing consumer behavior. Studies indicate that visually appealing and culturally relevant packaging can attract consumers, enhance perceived product quality, and encourage purchase decisions (Silayoi & Speece, 2007). In addition, the choice of packaging materials is equally important, as it directly affects product safety, durability, and shelf life. For Fugu fabrics, which are valued for their texture, strength, and intricate weaving, appropriate packaging materials are necessary to protect against environmental factors such as moisture, dust, and physical damage. Moreover, packaging serves as a bridge between tradition and modernity by providing a platform for storytelling and brand communication. Through effective packaging, Fugu producers can highlight the origin, cultural significance, and craftsmanship of the product, thereby creating a stronger emotional connection with consumers (Aniaku, Amedonu, & Fusheini, 2019). This is particularly important in today's competitive market, where consumers are increasingly drawn to products that offer both cultural authenticity and aesthetic appeal.

Therefore, this study focuses on examining the influence of packaging design and material selection on consumer choice, safety, and quality preservation of Fugu products. By integrating both the aesthetic and functional aspects of packaging, the study seeks to provide insights into how effective packaging strategies can enhance consumer satisfaction, improve product protection, and increase the market competitiveness of Fugu businesses.

## **LITERATURE REVIEW**

This section reviews existing literature on packaging as a strategic tool in fashion marketing, with particular emphasis on how packaging design and material selection influence consumer choice, product safety, and quality preservation of Fugu products. The review draws on both global perspectives and studies relevant to traditional textile industries, especially within the Ghanaian context.

### **Concept of Packaging in Marketing**

Packaging has evolved from its traditional role of merely containing and protecting products to becoming a critical component of marketing strategy. It serves multiple functions, including protection, communication, branding, and differentiation in competitive markets. According to Farah, Mansur, and Lovita, (2024), packaging is an integral part of the marketing mix, influencing how consumers perceive and interact with products. Modern packaging plays a vital role in attracting consumer attention, conveying product information, and enhancing perceived value. It acts as a "silent salesperson," communicating brand identity and influencing purchase decisions at

the point of sale. In highly competitive industries such as fashion, packaging provides a means for brands to distinguish their products and create a lasting impression on consumers (Rundh, 2016).

### **Packaging in the Fashion Industry**

In the fashion industry, packaging extends beyond functionality to become an essential element of brand experience. It provides visual and tactile cues that reflect the quality, uniqueness, and values of a brand. Well-designed packaging enhances consumer engagement and can significantly influence buying behavior. Research indicates that consumers often associate high-quality packaging with high-quality products. Elements such as color, texture, typography, and material contribute to perceived value and desirability (Silayoi & Speece, 2007). Additionally, packaging plays a role in storytelling, allowing brands to communicate their heritage, craftsmanship, and identity, which is particularly important in fashion marketing. Furthermore, the growing emphasis on sustainability has led to increased adoption of eco-friendly packaging materials. Consumers are increasingly drawn to brands that demonstrate environmental responsibility through their packaging choices (Dangelico, Pujari, & Pontrandolfo, 2017).

### **Packaging of Traditional Textile Products**

Traditional textiles such as Fugu, Kente, and Batik are deeply rooted in cultural identity and heritage. Historically, these products were sold with minimal packaging, as emphasis was placed on the fabric itself rather than its presentation. However, with the expansion of global markets, packaging has become essential in enhancing their marketability and preserving their cultural value. Packaging for traditional textiles now serves dual purposes: protecting the product and communicating its cultural significance. Incorporating storytelling elements, such as the origin of the fabric and the craftsmanship involved, can increase consumer appreciation and perceived value (Dangelico, Pujari, & Pontrandolfo, 2017).

### **Packaging and Consumer Behaviour**

Packaging significantly influences consumer perception and purchasing decisions. Visual elements such as color, design, and branding can attract attention and create emotional connections with consumers. Studies have shown that consumers often rely on packaging as an indicator of product quality, especially when they cannot directly assess the product before purchase (Underwood & Klein, 2002). In addition, packaging affects consumer trust and satisfaction. Well-packaged products are perceived as more reliable and valuable, increasing the likelihood of repeat purchases. The psychological impact of packaging, including sensory experiences such as touch and visual appeal, further reinforces consumer preference (Sitopu, & Firdaus, 2024).

### **Packaging Materials, Safety, and Quality Preservation**

The selection of packaging materials plays a crucial role in ensuring product safety and maintaining quality. Effective packaging materials protect products from environmental factors such as moisture, dust, and physical damage during storage and transportation. For Fugu products, which are handwoven and delicate, appropriate packaging materials are essential to preserve fabric texture, color, and durability. Poor packaging can lead to product deterioration, reducing customer satisfaction and market value (Abdulai, Adam, & Alhassan, 2016). Moreover, modern packaging materials such as biodegradable plastics, recycled paper, and reusable containers are gaining popularity due to their sustainability benefits. These materials not only enhance product protection

but also align with global trends toward environmentally responsible practices (Muposhi, Nyagadza, & Mafini, 2023).

### **Packaging in the Ghanaian Textile Industry (Fugu Context)**

The Ghanaian textile industry, particularly the Fugu sector, plays a significant role in preserving cultural heritage and supporting local economies. Despite its importance, the industry faces several challenges related to packaging, including limited access to modern materials, high costs, and lack of technical knowledge. Most Fugu producers rely on basic packaging methods, such as plastic bags or simple wrapping, which do not effectively protect the product or enhance its market appeal. This limitation reduces the competitiveness of Fugu products in both local and international markets (Majeed, Zanu, & Adabla, 2019). However, improved packaging presents significant opportunities for growth. By adopting innovative and culturally relevant packaging strategies, Fugu businesses can enhance product visibility, attract a wider consumer base, and increase their market share. Packaging also offers opportunities for branding, storytelling, and differentiation, which are essential for competing in global markets.

### **Research Gap**

Despite the growing importance of packaging in fashion marketing, existing studies on the Fugu industry have largely focused on cultural significance, economic contributions, and design aspects of the fabric. Limited attention has been given to the role of packaging design and material selection in influencing consumer behavior, product safety, and quality preservation.

Additionally, most packaging-related studies are centered on large-scale industries and developed markets, with little empirical research on traditional textile industries in developing countries such as Ghana. This creates a gap in understanding how packaging strategies can be effectively applied to enhance the competitiveness of Fugu products.

### **METHODOLOGY**

This study adopts a mixed-methods approach, specifically a sequential explanatory design, to investigate the influence of packaging design and material selection on consumer choice, safety, and quality preservation of Fugu products. This design involves collecting and analyzing quantitative data first, followed by qualitative data to explain the quantitative results (Creswell, & Plano Clark, 2023). The study population consists of 550 individuals, including 487 Fugu weavers (male and female), 52 zonal executive members, and 11 retailers within the Upper East Region of Ghana. A sample size of 160 participants was selected, comprising 140 respondents for the quantitative phase and 20 participants for the qualitative phase. The quantitative phase involved the use of questionnaires to collect numerical data on packaging and consumer behavior, while the qualitative phase employed semi-structured interviews to gain deeper insights from participants (Creswell, 2017). The study used descriptive research designs. The descriptive design examined existing packaging practices and consumer responses. A combination of purposive, snowball, and proportional stratified sampling techniques was used to select participants. Data was collected using questionnaires, interviews, and focus group discussions, ensuring validity through triangulation (Cohen, Manion, & Morrison, 2017). Quantitative data was analyzed using SPSS (version 26.0) to generate frequencies and percentages, while qualitative data was analyzed to interpret participants' views and experiences (Peterson, 2019).

## RESULTS

This chapter presents the results of the study, which examined packaging as a tool in fashion marketing within Fugu businesses in the Upper East Region of Ghana. A mixed-methods approach using a sequential exploratory design was employed, combining both quantitative and qualitative data to provide a comprehensive analysis. The quantitative phase, involving 150 respondents, utilized questionnaires to identify patterns and relationships regarding packaging practices and their influence on marketing and sales. The qualitative phase, based on interviews with 17 participants, provided deeper insights into participants' experiences and perceptions, analyzed through an open coding system. The integration of both data types enhanced the validity of the findings and allowed for a more detailed understanding of how packaging affects the Fugu industry. Overall, the results demonstrate that packaging plays a significant role in shaping brand perception, customer satisfaction, and sales performance. The findings presented in this chapter lay the foundation for further discussion and interpretation in subsequent sections.

### Qualitative Analysis (Demographic Information)

**Table 1: Demographic Information on the Participants**

S/N	Pseudonym	Region	Age	Nationality	Education
1	Participant A	Bolga soe	34	Ghanaian	NVTI prof. II weavers
2	Participant B	Peace &love	55	Ghanaian	JHS
3	Participant C	Bolga	40	Ghanaian	NVTI proficient 1
4	Participant D	Bolga	50	Ghanaian	JHS
5	Participant E	P &L	34	Ghanaian	masterCraftsman
6	Participant F	P&L	56	Ghanaian	SHS
7	Participant G	progression	55	Ghanaian	madam
8	Participant H	Progression	50	Ghanaian	HND
9	Participant I	Sumahum	54	Ghanaian	HND
10	Participant J	Sumahum	52	Ghanaian	O'Level
11	Participant K	Bolga soe	50	Ghanaian	JHS
12	Participant L	P&L	52	Ghanaian	weaver madam
13	Participant M	P&L	56	Ghanaian	weaver master
14	Participant N	Sabarungo	45	Ghanaian	weaver Master
15	Participant O	Sabarungu	45	Ghanaian	COVET facilitator
16	Participant P	P&L	55	Ghanaian	Weaver madam
17	Participant Q	Bolga Sheriga	56	Ghanaian	weaver Master

#### Source: Field Work, 2024

The qualitative data includes 17 Ghanaian participants from various locations in the Upper East Region. Most are aged between 45 and 56 years, indicating high experience in the Fugu industry. Their educational backgrounds range from basic (JHS/SHS) to vocational and professional levels (NVTI, HND, master craftsmen). Overall, the participants are experienced and knowledgeable, supporting reliable insights.

This section analyzed the demographic characteristics of respondents employed in the quantitative analysis. The gender of respondents, age of respondents, educational level of respondents and length of service of respondents were demographic characteristics employed.

**Table 2: Demographic Characteristics of respondents**

Variable	Frequency	Percent
<b>Gender</b>		
Male	53	37.9
Female	87	62.1
<b>Age</b>		
21 - 30 years	39	27.9
31- 40 years	76	54.3
41 - 50 years	22	15.7
51 - 60 years	3	2.1
<b>Educational Level</b>		
SHS/SSS	57	40.7
Diploma	10	7.1
First Degree	41	29.3
Postgraduate	32	22.9
<b>Length of service (in years)</b>		
Less than 5	33	23.6
6 - 10 years	28	20.0
11 - 15 years	19	13.6
16 - 20 years	45	32.1
Above 20 years	15	10.7
<b>Total</b>	<b>140</b>	<b>100.0</b>

**Source: Field Survey (2024)**

The results show that the majority of respondents were female (62.1%), with males representing 37.9%. Most respondents were within the 31–40 years age group (54.3%), indicating an active workforce. In terms of education, most had SHS certificates (40.7%), followed by first degree (29.3%) and postgraduate (22.9%), showing a fairly educated group. Regarding experience, a larger proportion had 16–20 years of service (32.1%), suggesting that respondents were experienced and capable of providing reliable insights.

### **How does packaging influence consumers in the selection of fugu?**

This research question aimed to gather insights into how packaging influences consumer choices in the selection of Fugu products. All participants provided their perspectives on this topic. The responses from other participants' highlighted key elements of packaging such as design, material, and branding that play a crucial role in shaping consumer behavior when selecting Fugu garments. The responses further emphasized how the attractiveness and functionality of packaging can enhance product appeal, making Fugu stand out in a competitive marketplace.

### **Influence of Packaging on Consumer Choices**

The following were responses in respect of this theme.

Participant A said that “Packaging plays a significant role in attracting customers, especially when the design is visually appealing. According to A, consumers tend to gravitate towards Fugu products that are packaged in bold, vibrant colors and well-structured designs, which give the

product a premium feel. When the packaging looks attractive, customers are more likely to associate the product with quality, even before inspecting the Fugu itself”.

Participant B also agree that “Packaging has a notable influence on consumer choices. However, B emphasized that the material used in the packaging is just as important as the design. According to B, when the packaging is durable and gives off a sense of protection for the product, consumers are more confident in purchasing the item. People don't just want their Fugu to look good; they want it to be well-protected until they get home”.

Participant C added that: “Branding element of packaging as a key driver in consumer behavior. C mentioned that well-branded packaging can create a lasting impression, especially when it includes clear logos and messaging that align with the values of the business. "I've noticed that when we use packaging with our brand's logo prominently displayed, consumers are more likely to choose our products because they trust the brand”.

Participant F noting that “Packaging influences consumer choices mainly when Fugu products are intended as gifts. F emphasized that for special occasions, consumers are more inclined to purchase Fugu garments that come in elegant, high-quality packaging, as it reflects positively on the buyer. "The more luxurious the packaging, the more suitable the Fugu is as a gift. This indicates that while everyday purchases might focus on functionality, special occasions place a greater emphasis on the overall presentation of the product”.

### **Packaging Elements That Appeal to Consumers**

This theme sought to establish the specific aspects or features of packaging that attract and influence consumers' purchasing decisions. Additionally, the theme explores how these packaging elements contribute to creating a positive impression of the product, potentially enhancing its perceived value, trustworthiness, and desirability.

Participant E “When the packaging stands out with bright, appealing colors, it grabs the customer’s attention almost immediately. Additionally, participant E pointed out that consumers often associate well-designed packaging with higher quality, which influences their decision to purchase”.

Participant F “Consumers are not only attracted by how the packaging looks but also by its durability and functionality. People want to know that the product inside is protected and secure, especially for Fugu, which can be a delicate garment, eco-friendly packaging materials resonate well with a growing number of environmentally-conscious consumers, making them more likely to choose products packaged sustainably”

Participant G “I want to say that logos, brand messaging, and even cultural symbols on the packaging can significantly influence consumer behavior. When consumers see a brand, they recognize or relate to, especially with cultural significance like Fugu, they are more likely to make a purchase,”

Participant H “I think functionality and convenience in packaging also appeal to consumers in a way. Easy-to-carry packaging or designs that allow for the easy storage of garments are appreciated by buyers. If the packaging is practical and easy to handle, consumers are more satisfied with their purchase and often come back for more”.

Participant K “Packaging for gifting is an important consideration for consumers, especially during festivals and special occasions. Consumers are willing to spend more on elegantly packaged Fugu garments, as these are often bought as gifts. When the packaging looks luxurious and refined, it elevates the product’s value in the eyes of both the buyer and the recipient”.

**Economic and Marketing Benefits of Packaging**

This theme perceived economic and marketing benefits that packaging provides for Fugu businesses, particularly in making products more competitive and appealing to consumers. Various participants have expressed their views on the theme.

Participant A had this to say "I noticed packaging is often the first point of contact between the consumer and the product. In the case of Fugu garments, a visually appealing package can capture attention quickly and entice potential buyers to choose our product over others, better packaging allows the business to charge a premium price, thereby increasing profit margins".

Participant C added that "Packaging not only boosts immediate sales but also plays a vital role in brand differentiation. In the fashion market, where competition is high, especially with Fugu garments, unique packaging helps distinguish our brand from others. Consumers are more likely to remember our products if the packaging is distinctive."

Participant H "While good packaging might seem like an additional expense, it is actually a wise investment because it saves us money in the long run. Durable packaging minimizes product damage during transportation and storage, reducing the need for replacements or refunds. Moreover, packaging serves as a form of advertisement, eliminating the need for excessive marketing expenditure"

Participant M "Consumers are more inclined to purchase products that appear well-packaged, as it creates an impression of reliability and professionalism. In the Fugu industry as we are in, packaging signals to consumers that we care about quality and presentation, and this influences their decision to buy."

Participant N "Consumers today are more environmentally conscious, and by adopting eco-friendly packaging for Fugu products, we can tap into that market. Using sustainable materials not only attracts customers who prioritize environmental responsibility but also enhances the business's reputation".

Participant O "When consumers have a positive experience with the packaging, they are more likely to return and make repeat purchases".

**What are the optimal packaging materials for fugu production?**

This question sought answers on how to identify the most suitable types of materials that can be used to package Fugu garments. It aimed to understand which packaging materials best protect and present the product, enhance its marketability, and align with consumer preferences. Additionally, it explored whether eco-friendly or sustainable materials would improve consumer appeal and how packaging materials impact the perception and sales of Fugu products. The question also considers challenges in sourcing high-quality materials and evaluates the practicality and effectiveness of different packaging options through the experiences of producers.

**Types of Packaging Materials Used for Fugu Products**

The theme was discussed by each participant. This theme sort to explore the various materials that participants have used or are currently using to package Fugu garments. It aimed to gather insights into the effectiveness, durability, and consumer appeal of these materials. The theme also investigated participants' preferences for certain materials, the challenges they face in sourcing them, and whether they have experimented with different options to optimize both protection and presentation of Fugu products.

Participant A "In my experience, we primarily use paper-based packaging materials because they are affordable and readily available in the local market. These materials provide a simple yet

effective way to wrap Fugu garments. However, I've noticed that paper packaging doesn't offer much protection during transportation, especially during the rainy season. We are considering switching to stronger materials like cardboard or plastic wraps to enhance durability."

Participant C "We use a mix of materials. For high-end Fugu garments, we tend to use cloth bags or eco-friendly jute pouches, which add a touch of tradition and luxury to the product. For more affordable Fugu products, we use basic plastic wraps to keep the costs down. It's important for us to balance aesthetics with functionality, so we experiment with different materials to see what works best for different market segments."

Participant J "We've tried several materials, but so far, plastic bags and reinforced paper seem to work best. The plastic is waterproof, which is important for protecting Fugu from damage, especially during transport. However, plastic doesn't align well with our brand's image of sustainability. We are exploring biodegradable plastic options or even reusable fabric bags to appeal to environmentally conscious consumers."

Participant L "We have experimented with various materials like cotton bags, kraft paper, and plastic wraps. Cotton bags are very popular among our customers, especially tourists, because they double as reusable shopping bags. However, they are more expensive to produce, so we reserve them for our premium Fugu garments. For everyday sales, we still rely on plastic, which is cost-effective, but we are actively looking for alternatives."

Participant P "For us, the choice of packaging material depends largely on the target customer. For local markets, we often use basic brown paper or plastic wraps because they are cheap and readily available. But for export markets or special occasions, we invest in better quality materials like glossy cardboard boxes or fabric pouches that reflect the craftsmanship of the Fugu. This differentiation helps to market the product better based on the customer's expectations."

Participant Q "We've recently started using eco-friendly packaging, particularly biodegradable materials. Customers, especially younger ones and tourists, are becoming more environmentally conscious. We see this as an opportunity to not only protect the environment but also to market our products as high-end and eco-friendly. These packaging materials have been well-received, and we believe they give us a competitive edge in the marketplace."

### **Impact of Packaging Materials on Consumer Perception**

This another theme sort to look at how different types of packaging materials influence the way consumers perceive Fugu products. It aimed to understand whether the choice of packaging materials (e.g., plastic, paper, fabric, eco-friendly materials) affects consumers' views regarding the quality, value, sustainability, and overall appeal of the product.

Participant A "From my experience, the type of packaging material used greatly influences consumer perceptions. When Fugu products are packaged using high-quality, durable materials, consumers often associate that with the product being premium. If I use cheaper materials, even if the garment inside is of high quality, consumers tend to think otherwise. The right packaging material enhances the perceived value of the product."

Participant B "I have noticed that eco-friendly packaging, like using biodegradable or recyclable materials, attracts more environmentally-conscious consumers. It sends a message that we care not

only about fashion but also about the environment. In the current market, using sustainable materials is becoming a key factor in shaping consumer perceptions, especially for younger buyers who prioritize sustainability.”

Participant C “When Fugu products are packaged in sturdy and aesthetically pleasing materials, consumers are more likely to view the product as well-crafted and reliable. This also boosts their confidence in purchasing the product. Packaging materials that can preserve the garment and maintain its integrity until it reaches the consumer make a big difference in how the product is perceived.”

Participant J “Consumers often feel more secure when Fugu is packaged in protective materials that ensure the garment won’t get damaged. For instance, using cloth or padded materials for packaging can enhance the perception of care and quality, making customers feel like they are getting value for their money. It is not just about the look; it’s about trust in the product’s safety.”

Participant I “The type of packaging material used directly affects how customers view the brand’s professionalism. If the packaging looks flimsy or cheap, it reflects poorly on the brand. On the other hand, using well-made, visually attractive, and functional packaging materials leaves a positive impression and gives the product a luxurious feel.”

Participant P “I believe consumers tend to associate eco-friendly packaging with social responsibility. They feel better about their purchase knowing the packaging can be reused or recycled. For many consumers, this adds a layer of trust in the brand, as they see it aligning with their personal values, particularly when it comes to environmental consciousness.”

Participant Q: “I have noticed that consumers are more likely to share their purchase experiences, especially on social media, when the packaging is impressive. If the materials used are attractive, consumers are proud to showcase their purchase, and this, in turn, boosts our visibility and marketing. A good packaging material can generate a buzz around the product and elevate the brand in the eyes of the public.

### **Challenges in Sourcing High-Quality Packaging Materials**

This another theme which sort to understanding the difficulties fugu producers face in acquiring appropriate packaging materials especially when trying to obtain high-quality materials for packaging. It aimed to uncover issues related to cost, availability, supplier reliability, sustainability options, and the overall impact of these challenges on the business's ability to package and market their products effectively.

Participant A expressed “One of the main challenges we face is the high cost of sourcing quality packaging materials. For small businesses like ours, it can be difficult to afford the premium packaging materials that will not only protect our Fugu products but also appeal to consumers. This ultimately affects our ability to package and market the Fugu in a competitive way.”

Participant C agreed, adding “Availability is another issue. Sometimes, the specific types of materials we need, especially sustainable or eco-friendly options, are hard to find in our region. This forces us to rely on less durable materials that may not convey the premium quality we want

our Fugu products to represent. It limits our ability to consistently present our brand in the best light.”

Participant H “Even when we manage to find the right materials, dealing with suppliers can be a challenge. Delays in delivery, inconsistent quality, and fluctuating prices make it hard to maintain the standards we aim for in packaging. This inconsistency affects the overall experience we want to offer our customers and harms our reputation.”

Participant Q noted the sustainability aspect “We want to use eco-friendly materials because consumers are becoming more conscious of environmental issues, but these materials are either too expensive or unavailable. This makes it hard to meet consumer expectations while keeping our costs reasonable. It’s a difficult balance to strike, and it affects how we present our Fugu products to a growing market of eco-conscious buyers.”

Participant N “Without access to high-quality packaging materials, we find it hard to create a strong brand presence. Packaging is a crucial part of how we market our Fugu products, and when we can’t source the right materials, it undermines our marketing efforts. Consumers often equate poor packaging with poor product quality, which can negatively impact sales.”

Participant J spoke about the struggle with maintaining consistency

“We try our best to maintain the quality of our packaging, but the inconsistency in supply and the high costs make it difficult to be consistent. This inconsistency can be frustrating, as it affects the overall image of our brand. When packaging quality fluctuates, it confuses customers and makes it harder for them to trust our product.”

Participant L added: “The cost of importing packaging materials is often prohibitive. Local materials are not always up to standard, and importing better options drives up the overall cost of production. As a result, we have to charge higher prices, which can make our Fugu less competitive in the market.”

Participant F concluded “In the long run, these challenges with sourcing quality packaging materials affect our ability to grow the business. If we can’t present our Fugu in the best way possible, it’s harder to attract new customers and retain existing ones. Packaging is one of the first things customers notice, and if it doesn’t impress, we lose out on potential sales.”

## Quantitative Analysis

**Table 3: Respondents Responses on Preferences for Packaging Design for Fugu Products**

Variables	Frequency	Percent
Durable packaging materials	20	59.3
Eco-friendly/Sustainable materials	24	60.7
Bright and appealing colors	16	55.0
Cultural symbols and branding	40	66.3
Simple and functional design	20	48.6
Luxury packaging for premium products	10	41.4
Cost-effective packaging	20	64.4
<b>Total</b>	<b>140</b>	<b>100</b>

Sources: Field work (2024)

## DISCUSSION

This section discusses the findings of the study in relation to the topic: *Influence of Packaging Design and Material Selection on Consumer Choice, Safety, and Quality Preservation of Fugu Products*. The discussion integrates qualitative and quantitative findings and is supported by literature cited in the study.

### Discussion of Demographic Characteristics

The demographic findings indicate that the majority of respondents were female (62.1%), while males constituted 37.9%, suggesting strong female participation in the Fugu industry. The age distribution shows that most respondents (54.3%) were between 31–40 years, indicating that the industry is dominated by economically active individuals. In terms of education, most respondents held SHS/SSS certificates (40.7%), followed by first degree (29.3%) and postgraduate qualifications (22.9%), reflecting a fairly educated group capable of understanding packaging practices. Additionally, a significant proportion of respondents had 16–20 years of working experience (32.1%), indicating that the findings are based on experienced individuals with practical knowledge of the Fugu industry. Similarly, the qualitative data showed that participants were mostly experienced individuals aged between 45 and 56 years, with diverse educational backgrounds including vocational and professional training. This strengthens the reliability of the findings, as participants possess in-depth knowledge of packaging and marketing practices.

### Influence of Packaging Design on Consumer Choice

The findings reveal that packaging design significantly influences consumer choice in the selection of Fugu products. Participants highlighted that visual appeal, color, branding, and presentation are key determinants of purchasing decisions. The qualitative results showed that bright and attractive packaging draws consumer attention and creates a perception of high quality. This supports Underwood and Klein (2002), who describe packaging as a “*silent salesman*” that influences consumer perception before purchase. Branding elements such as logos and cultural symbols were also found to enhance consumer trust and brand recognition. This aligns with Klimchuk and Krasovec (2012), who argue that packaging is a strategic marketing tool that shapes consumer interaction with products. Furthermore, the findings highlight the importance of balancing aesthetics and functionality, as emphasized by Silayoi and Speece (2007). Packaging used for gifting was also found to require luxurious design, which increases product desirability and perceived value.

### Influence of Packaging Materials on Safety and Quality Preservation

The study found that packaging materials play a crucial role in ensuring product safety and maintaining quality. Participants indicated that durable and protective materials are essential for preserving Fugu garments during transportation and storage. This finding supports Rundh (2013), who highlights the protective function of packaging in maintaining product quality and customer satisfaction. Additionally, Kotler (2000) notes that packaging communicates product value, and high-quality materials enhance consumer perception of premium products. The study also revealed a growing preference for eco-friendly packaging materials, reflecting changing consumer attitudes. Lindh et al. (2016) and Magnier and Schoormans (2017) emphasize that sustainable packaging attracts environmentally conscious consumers and improves brand image. Thus, effective

packaging materials must balance durability, protection, and sustainability to meet both functional and consumer expectations.

### **Economic and Marketing Benefits of Packaging**

The findings indicate that packaging provides significant economic and marketing benefits to Fugu businesses. Packaging serves as the first point of contact between the product and the consumer, influencing purchase decisions and brand perception. Participants noted that effective packaging enhances product visibility, brand differentiation, and competitiveness. This supports Nancarrow, Wright, and Brace (1998), who emphasize the role of packaging in distinguishing products in competitive markets. Additionally, packaging allows businesses to charge premium prices, thereby increasing profitability. Keller (2009) further highlights that packaging strengthens brand recognition and customer loyalty. Packaging also reduces product damage, supporting Rundh (2005), who notes its logistical benefits. Positive packaging experiences encourage repeat purchases, aligning with Keller (2013), who emphasizes the importance of brand experience in customer loyalty.

### **Challenges in Packaging Material Selection**

Despite its importance, the study identified several challenges affecting packaging practices, including high cost, limited availability, and supply inconsistencies. These findings align with Astner, (2022), who note that small businesses often struggle with the cost of quality packaging materials. Similarly, Lindh et al. (2016) highlight the issue of limited access to high-quality materials. Supply chain challenges are supported by Verghese and Lewis (2007), while the high cost of sustainable materials aligns with Rokka and Uusitalo (2008). These challenges limit the adoption of effective packaging strategies and affect product competitiveness.

### **Integration with Quantitative Findings**

The quantitative results reinforce the qualitative findings. The majority of respondents preferred cultural symbols and branding (66.3%), followed by cost-effective packaging (64.4%) and eco-friendly materials (60.7%). Additionally, durable materials (59.3%) and bright colors (55%) were highly preferred, confirming the importance of both functionality and visual appeal. These findings are consistent with Park and Kim (2015) and Venter et al. (2011), who emphasize the role of design and cost in packaging decisions. The findings confirm that packaging design and material selection significantly influence consumer choice, product safety, and quality preservation of Fugu products. Packaging serves both functional and marketing roles, shaping consumer perception and business performance. To maximize its effectiveness, packaging must balance aesthetic appeal, functionality, affordability, and sustainability. Addressing existing challenges will be essential for improving the competitiveness and growth of Fugu businesses.

## **CONCLUSIONS**

This study examined the influence of packaging design and material selection on consumer choice, safety, and quality preservation of Fugu products in the Upper East Region of Ghana. The findings from both qualitative and quantitative data confirm that packaging plays a critical role in fashion marketing within the Fugu industry. The study revealed that packaging design significantly influences consumer choice, as elements such as visual appeal, color, branding, and presentation shape consumer perceptions and purchasing decisions. Packaging that incorporates cultural symbols and attractive designs enhances product visibility, strengthens brand identity, and creates

a perception of quality among consumers. The findings further indicate that packaging materials are essential for ensuring the safety and quality preservation of Fugu products. Durable and protective materials help maintain the integrity of garments during transportation and storage, while high-quality materials enhance the perceived value of the product. The increasing preference for eco-friendly packaging also highlights the growing importance of sustainability in consumer decision-making.

In addition, packaging contributes significantly to the economic and marketing performance of Fugu businesses by improving competitiveness, enhancing brand differentiation, and promoting customer satisfaction. It also serves as a form of communication and advertisement, encouraging repeat purchases and customer loyalty. However, the study identified key challenges affecting packaging practices, including the high cost of materials, limited availability of quality and eco-friendly packaging options, and supply inconsistencies. These challenges limit the ability of Fugu producers to adopt effective packaging strategies and compete in the market.

Based on these findings, it is recommended that Fugu producers adopt innovative and culturally relevant packaging designs that incorporate branding elements to enhance product appeal. There is also the need to prioritize the use of durable and protective packaging materials to ensure product safety and quality preservation. Furthermore, Fugu businesses should gradually adopt eco-friendly and sustainable packaging materials to meet changing consumer preferences and improve brand image. To address cost challenges, producers should explore cost management strategies, such as using locally available materials, bulk purchasing, and collaboration among producers.

In addition, training and capacity-building programs should be organized to educate producers on modern packaging techniques and material selection. Efforts should also be made to improve the availability and consistency of packaging materials through better supplier networks and local production. Finally, government and relevant institutions should support the Fugu industry by providing financial assistance, technical support, and access to sustainable packaging solutions. In conclusion, improving packaging design and material selection is essential for enhancing consumer choice, product safety, quality preservation, and the overall competitiveness of Fugu products in both local and international markets.

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