



An integrative strategy for utilising culture-inspired packaging design aesthetics toward improving the economic value of local agricultural products: A qualitative study

Peter Oluwagbenga Odewole^{1*}, Ebenezer Odji², Adebayo Abiodun Adeloje¹, Benjamin Eni-itan F. Afolabi¹, & Adedola Olayinka Adeyemi¹

¹Department of Fine and Applied Art, Olabisi Onabanjo University, Ogun State, Nigeria

²Industrial Design Department, Lagos State University, Lagos State, Nigeria

Abstract

Given the global decline in oil prices, there is a critical need for economic diversification in countries like Nigeria by leveraging the agricultural sector. However, the marketability of local agricultural products is often hindered by inadequate packaging that fails to connect with consumers. This study explores an integrative strategy that employs culture-inspired packaging design aesthetics to enhance the economic value of local agricultural products in Nigeria. It adopts a qualitative methodological approach involving analysis of validated secondary sources and applying visual design theories, including Gestalt principles, cognitive psychology, and semiotics. The study demonstrates how cultural elements can be embedded meaningfully into packaging design to elevate consumer perception and market competitiveness of local agricultural products. Findings reveal that packaging design using an integrative strategy rooted in local cultural identity improves consumer engagement, fosters emotional and cognitive resonance, and enhances brand value. The study findings will contribute to sustainable economic development in Nigeria by shedding light on the untapped potential within the fusion of cultural identity and commercial viability in the agricultural sector. It provides practical insights for designers, packaging industries, marketers, researchers, and policymakers on utilising cultural aesthetics to promote sustainable development and economic growth in Nigeria's agro-based economy.

Article Information

Article History:

Received: 31-03-2025

Revised: 25-07-2025

Accepted: 19-08-2025

Keywords:

Local Agricultural Products Packaging, Cultural Design Aesthetics, Design Theories, Integrative Strategy, Nigeria

*Corresponding Author:

Peter Oluwagbenga Odewole

E-mail:

odewole.peter@ooua.goiwoye.edu.ng

Copyright @ 2025 STAR Journal, Wollega University. All Rights Reserved.

INTRODUCTION

Packaging serves as a protective vessel ensuring the safety and freshness of its contents and as a medium for communicating the value of the products within and convincing potential consumers to make a purchase; consequently, commercial packages can convey a myriad of messages (Schifferstein et al., 2022). Packaging provides a streamlined process for preparing, transporting, distributing, storing, and retailing goods, ensuring their safe delivery to the end consumer in optimal condition at minimal cost,

and serves a techno-economic function designed to minimise delivery costs while maximising sales and profits. Packaging design aesthetics can influence consumer behaviour by employing specific elements, including size, shape, materials, colour, pattern, text, and brand marks (Schifferstein et al., 2022). In this sense, designers must analyse the intrinsic value of packaging design by enhancing its distinctiveness and uniqueness. The evolving strategy to cultivate design aesthetics in product packaging design

A Peer-reviewed Official International Journal of Wollega University, Ethiopia

Odewole et al.,

encompasses positioning the product for users' easy understanding and acceptance, integrating cultural elements, and connecting the design idea with consumers' lives (Wei, 2020). Modern trends in packaging design are rooted in lifestyle and modern consciousness, drawing inspiration from cultural foundations (Lin & Lin, 2022).

Packaging directly influences consumers' choices of agricultural products, with a positive correlation between the perceived quality of the products and their packaging, indicating that packaging attributes shape consumers' opinions (Ling & Halabi, 2024). Nonetheless, the potential hindrance to the market acceptability of local agricultural products lies in the need for packaging designs that resonate effectively with the consumers (Odji et al., 2019). In the same vein, Kwaku & Fan (2020) attributed low patronage of domestically produced agricultural products to the fact that the design and packaging of many of these products need more quality to compete effectively in both local and international markets. Since individuals are emotionally attached to their culture, incorporating cultural features into the packaging design aesthetics of products can promote their acceptance in the market (Zhou, 2023). In the modern local brand packaging domain, there is an increasing preference for incorporating regional culture to highlight and enhance design elements (Li, 2021). This necessitates research studies that bridge the gap between traditional agricultural practices and contemporary consumer preferences by investigating how the infusion of cultural elements into packaging design can elevate the perceived value of local agricultural products.

In an era where global markets are interconnected, the significance of packaging design extends beyond mere functionality to become a powerful tool for conveying cultural identity and influencing consumer perceptions (Lin & Lin, 2022). Incorporating local cultural features into packaging designs can strengthen consumers' perception of a product and may heighten their desire to purchase (Li, 2021). In recent years, there has been a growing community

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27

interest and concern regarding the design of agricultural product packaging since the product packaging design is the first impression a user forms when encountering a product (Feng et al., 2018). Creating unique agricultural products, packaging, and branding requires a creative fusion of the vibrant threads of traditional culture and aesthetics (Zhou, 2023). Kwaku & Fan (2020) revealed that product package designs could effectively influence agricultural products' market value and performance. According to Huo & Liu (2023), ways to enhance the packaging of agricultural products include emphasising the development of packaging design expertise, establishing brand awareness by generating a unique packaging image, and integrating local features in packaging design. In agricultural product packaging design, designers can incorporate material processes, visual elements, and structural forms with regional traditional cultural aspects to create recognisable packages to foster a unique brand image and enhance the quality and value of the products while also serving as a channel for the preservation, understanding, learning, and innovation of traditional culture (Zhou, 2023). Cultivating elevated cultural values within the creative market is crucial to highlighting the significance and safeguarding of local cultures (Li, 2021).

Amid growing competition in the global agricultural market, regional culture is a vital resource for brand differentiation, significantly enhancing brand value and market competitiveness of agricultural products (Liu et al., 2024). Shen (2020) assessed the practical significance of incorporating regional culture into the packaging design of local specialties to align with contemporary design trends and cultural aesthetic preferences, aiming to refine and integrate graphics, colours, text, and structure that effectively highlight the essence of regional culture. Culture influences consumer preferences, perceptions, and behaviours in today's competitive business market (Shavitt & Cho, 2016). Packaging design that reflects local culture and traditions fosters a sense of belonging and nostalgia,

Odewole et al.,

building emotional connections that drive brand loyalty and repeat purchases (Ling & Halabi, 2024). Designers are increasingly recognising the importance of understanding cultural nuances to create products that align with the expectations and needs of users. Research has shown that culturally inspired designs not only cater to the specific preferences of a target audience but also promote local economic development and contribute to the global appeal of a product (Shen, 2020). Contemporary cultural and creative packaging allows consumers to grasp the narrative behind a product and fosters a connection between the product and the consumer, ensuring its positive reception by delivering additional value and meeting psychological needs (Lin & Lin, 2022). Packaging appearance is crucial in communicating information about agricultural products, encouraging consumption, and sharing cultural values (Zhao et al., 2022).

For some years now, Nigeria has overly depended on petroleum as the mainstream of its economy. However, before the sudden discovery of oil, agro-products had been the mainstream of Nigeria's economy (Owan et al., 2020). The country's pride in agriculture was carefully captured by the green colour in the Nigerian flag, signifying a potential agricultural economy, and the black shield of the Nigerian coat of arms, representing fertile soil. With the prevailing global fluctuation in oil prices, it becomes increasingly imperative to shift significant attention from an undue reliance on petroleum to fostering economic diversification through dependence on agricultural products in Nigeria (Owan et al., 2020).

Nigeria boasts a wealth of cultural heritage, encompassing tangible (material) and intangible (non-material) aspects, stemming from its diverse and multicultural communities, including over 250 ethnic groups (Nomishan & Sani, 2023). Given that the country is endowed with a rich cultural tapestry and a robust agricultural sector, it is imperative to explore the symbiotic relationship between packaging design aesthetics rooted in cultural heritage and the economic value of local produce. Nigeria has a diverse range of

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27

agricultural products suitable for culture-inspired packaging design. Some of these products include palm oil, shea butter, honey, dried fish, cassava products such as garri (cassava flakes) or cassava flour, yam products such as yam flour, local snacks such as plantain chips, groundnuts, or popcorn, and local spices and seasonings such as pepper and locust beans (iru).

One significant contributing factor to low patronage of local agricultural products in developing countries such as Nigeria is the inadequate packaging of these products for sale, representing a substantial weakness within the agro-industry (Odji et al., 2019). The packaging of many agricultural products is often too rough and straightforward, lacking aesthetic appeal and failing to stimulate consumers' sense of taste (Zhao et al., 2022). In Nigeria, like other developing African countries, the inadequate packaging design of locally produced agricultural products impedes their successful sales domestically and internationally, resulting in lower patronage compared to similar products from other countries, since packaging plays a significant role in influencing consumer purchasing decisions (Kwaku & Fan, 2020). Odji et al. (2019) suggested that enhancing packaging design for agricultural goods in Nigeria is crucial for attracting consumers and positively shaping their purchasing decisions. Despite Nigeria's rich cultural heritage and vast local agricultural products, the full potential of integrating cultural aesthetics into product packaging remains underexplored. There is a need to bridge the gap between traditional cultural values and modern packaging design strategies to elevate the perceived quality, value, and marketability of local agricultural products in Nigeria.

While prior research has established the influence of packaging on consumer choices, there is a limited body of knowledge on how an integrative application of design theories, particularly Gestalt principles, cognitive psychology, and semiotics, can be used to develop culture-inspired packaging designs for agricultural products in Nigeria. Few studies have proposed a

comprehensive design framework that systematically translates cultural identity into packaging aesthetics to enhance market value and economic outcomes. Thus, a significant gap exists in exploring how such culturally rooted, theory-driven packaging design strategies can be applied and evaluated for effectiveness in real-world contexts.

To address this gap, the study proposes the following hypotheses:

H₁: Integrating Gestalt principles, cognitive psychology, and semiotics into packaging design can significantly enhance the perceived economic value of local agricultural products.

H₂: Based on visual design theories, culture-inspired packaging design aesthetics can significantly influence consumer perception and acceptance of local agricultural products in Nigeria.

Statement of the Problem

Despite the rich cultural heritage of Nigeria and the increasing global recognition of design as a tool for economic development, the packaging of many local agricultural products continues to lack cultural relevance and visual sophistication. This disconnect limits their market appeal, both locally and internationally, undermining efforts to promote value addition, consumer engagement, and product differentiation. Moreover, the absence of design strategies grounded in indigenous aesthetics and psychological principles hinders the competitiveness of these products in modern, brand-conscious marketplaces. Therefore, this study aims to investigate how visual design theories, including Gestalt principles, cognitive psychology, and semiotics, can be systematically integrated into the packaging design of Nigerian agricultural products using cultural symbols and motifs. Through a conceptual analysis supported by semiotic illustrations and theoretical design models, the research aims to identify specific design strategies that positively influence consumer perception and perceived product value. The study seeks to address the critical need for culturally grounded packaging solutions that can

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27
strengthen national identity and cultural sustainability and support Nigeria's broader economic diversification agenda. By contextualising global design theories within the Nigerian agro-sector, this research seeks to provide a practical, theory-informed framework for the development of competitive, culturally resonant packaging, achievable within a 12-month implementation cycle.

MATERIALS AND METHODS

This study employed a qualitative research methodology rooted in a conceptual design-based framework, using literature analysis to explore how integrating culture-inspired packaging design aesthetics, guided by Gestalt principles, cognitive psychology, and semiotics, can enhance the economic value of local agricultural products in Nigeria. It draws from a multidisciplinary base, integrating visual communication studies, cultural aesthetics, and packaging design to form a robust framework for analysing and developing culture-based packaging solutions. The research process was primarily analytical and theoretical, examining and applying established design theories to develop an integrative strategy for packaging design. These theories were discussed and applied to demonstrate how they can inform Nigerian agricultural products' aesthetic, functional, and communicative aspects of packaging design.

This approach allows for the systematic application of visual design theories to product packaging, critical evaluation of the aesthetic and communicative potential of cultural elements, and the development of a conceptual model for integrating cultural identity into product packaging design for local agricultural products. Data were gathered from documented studies on agricultural product packaging in Nigeria ([Odji et al., 2019](#)), design aesthetics literature ([Zhou, 2023](#)), and cultural references from Nigerian communities ([Nomishan & Sani, 2023](#)). These sources supported the theoretical foundation for integrating cultural features into packaging design.

Results**Application of Relevant Visual Design Theories**

Achieving aesthetically pleasing packaging often involves the application of pertinent design theories and principles during the creation process (Odji et al. 2019). According to Oladumiye (2018), a significant correlation exists between applying visual design theories and developing visually appealing package designs. Therefore, this study examines how to use visual design theories, including Gestalt principles, cognitive psychology, and semiotics, to create visually pleasing packaging designs inspired by culture to improve the economic value of local agricultural products. Gestalt principles, cognitive psychology, and semiotics were chosen because they are fundamental to understanding how humans perceive and interact with visual design, providing insights into how the mind organises and processes visual information vital for designers aiming to create compelling and engaging visuals.

(a) Gestalt Principles

Gestalt psychology broadens the framework of visual perception by demonstrating that optimising the human visual system to perceive structure

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27 enhances its ability to comprehend things or events (Merrikhpour, 2022). The Gestalt theory posits that visual perception is a holistic and immediate impression of the design object, wherein the overall composition of elements shapes the perception of each component and influences how the recipient interprets the entire object and elements in their relation to each other. Visual artists and designers incorporate Gestalt principles into their work to provide scientific methodology, logical explanations for human perception, and insights into human intentions and inclinations in organising visual elements (Khamis et al., 2023). The principles of Gestalt psychology influence visual designs based on the relationship between similarity, proximity, continuity, symmetry, closure, figure-ground, and isomorphic correspondence (Khamis et al., 2023). At its essence, Gestalt psychology aims to decipher incomplete visual information through the most straightforward and direct means, emphasising the perceptual capacity of visual thinking to comprehend, select, simplify, abstract, analyse, and synthesise actions (Merrikhpour, 2022). Table 1 describes how these principles can be applied in packaging design.

Table 1*Description and Application of Gestalt Principles in Packaging Design*

Gestalt Principle	Description and Application in Packaging Design
Similarity	Elements with similar visual characteristics, such as colour, shape, size, or texture, are perceived as related or belonging to the same group. In design, grouping similar items helps create a sense of unity. Using consistent colours or shapes for related products establishes a cohesive and organised look for packaging.
Proximity	Elements close to each other are perceived as belonging to the same group or category. Placing related visual elements nearby reinforces their connection. For packaging design, arranging images or text associated with specific products near each other helps convey a unified message.
Continuity	Design elements arranged in a continuous line or pattern are perceived as connected and belonging together. Creating a flow in the design using continuous lines or patterns guides the viewer's eye and imparts a sense of coherence.

Table 1 continues.

Symmetry	Symmetrical elements are perceived as balanced, stable, and harmonious. Achieving visual balance by arranging elements symmetrically creates a pleasing and stable design. Symmetry can be used in packaging design to highlight the product and convey a sense of order.
Closure	The mind completes incomplete shapes or patterns to perceive them as a whole. Including elements that form incomplete shapes or encourage mental closure engages the viewer's imagination. Packaging design could involve partially hidden images or elements that evoke recognition and curiosity.
Simplicity or Figure-Ground	Design elements are perceived as the primary focus (figure) or the background (ground). Creating a clear distinction between the product (figure) and the background enhances visibility and impact. The packaging design should ensure that the product stands out against a background that complements and supports the overall design.

(b) Cognitive Psychology

According to Roy (2024), cognitive psychology focuses on the complex functions of the human mind, focusing on how people perceive, process, and interpret information. Cognitive psychology explores mental processes such as perception, memory, and attention, elucidating their impact on consumer behaviours and decisions, including the choices made in purchasing, opening, and using a product driven by the characteristics of its packaging. Cognitive psychology underscores the significance of encoding information in design, manifesting through diverse processing procedures where designers convert brand concepts, product details, and ambiance into visual symbols for representation in packaging design. Beyond merely serving as a protective covering for a product, packaging possesses cognitive capabilities to offer an intellectual, distinctive, aesthetic, and logical enhancement to the product, coupled with an emotional appeal.

Based on a cognitive model, Cheng et al. (2014) categorised the cognitive process of consumers regarding cultural products into three levels: interpretation, experience, and cognition. In the cognitive model, interpretation involves consumers' initial cognitive understandings, encompassing various aspects through sensory channels like visual, tactile, auditory, olfactory, and gustatory senses (Cheng et al., 2014).

Consumer experience is formed by recognition patterns as influenced by social, cultural, economic, and political factors and individual cultural cognition, fostering a profound understanding of cultural products across various attributes (Cheng et al., 2014). Cognition involves short-term and long-term memory, such that during the interpretation and experience levels, the intrinsic properties of cultural products are initially stored in the consumers' short-term memory and eventually form a cultural stereotype through repeated product experiences, constituting long-term memory (Cheng et al., 2014).

Designers translate the principles of cognitive psychology into cognitive ergonomics to optimise product packaging design for enhanced user experience and functionality. Cognitive ergonomics entails examining the alignment between a product's use and the cognitive capabilities of its users (Yusoff, 2024). The salient aspects of cognitive ergonomics, including attention, information processing, sensation, perception, affordances, and predictability of human errors, are paramount in understanding a product's selection and utilisation, providing insights that can guide improvements in packaging design (Yusoff, 2024). Strategically leveraging consumer cognitive psychology in packaging design can prove advantageous in gaining a competitive edge and shaping consumer perceptions of product and brand value.

Semiotics is the study of signs, symbols, and their meanings. Semiotics explores the meanings of words, images, languages, and communication processes in nature and culture, finding broad applications in diverse fields such as marketing and design (de Mendonça et al., 2021). Semiotics plays a crucial role in how viewers interpret and understand visual elements within a design. Semiotics is a psychological principle in packaging design that conveys meaning, seeks knowledge, and evokes emotions (Sutiah et al., 2023). Packaging designs may incorporate communicative signs with visual meanings, conveying meaningful messages (Erlyana, 2019).

By applying semiotics in packaging design, designers can tap into viewers' inherent meanings and associations with various signs, symbols, and visual elements. This allows designers to convey complex ideas, emotions, and messages more effectively and facilitates a deeper connection between the design and the audience. From a semiotic standpoint, design is perceived as a communicative act within the expression context, wherein the object serves as a mediator between the designer (expresser) and the user (receiver), allowing for manipulation and influencing the user's cognitive and emotional disposition. When employed skilfully, semiotics enhances the psychological impact of packaging design. Semiotic analysis enhances the comprehension of the meanings constructed by packages, considering their communicative potentials and interactions with consumers during the shopping experience (de Mendonça et al., 2021).

Integrating Design Theories/Principles

This study suggests an integrative strategy that draws upon principles from Gestalt psychology, cognitive psychology, and semiotics for packaging design aesthetics inspired by cultural features to enhance the economic value of local agricultural products. Designers can employ a combination of Gestalt psychology, cognitive psychology, and semiotics to create packaging that resonates with

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27
consumers on intellectual and emotional levels, enriching the narrative embedded within packaging designs. In a single packaging design, Gestalt principles can be used to systematically organise visual elements within packaging design and ensure coherence, unity, and resonance with cultural motifs and symbols; cognitive psychology to offer insights into consumer perception, memory, and attention; and semiotics to facilitate the meaningful communication of messages and emotions through visual symbols and signs.

By harnessing the principles of Gestalt psychology, designers can leverage concepts such as proximity, similarity, and closure to design packaging that commands attention and communicates product attributes with clarity and coherence. Through careful consideration of visual hierarchy, balance, and spatial organisation, packaging becomes more than just a container for goods but a canvas upon which the product's story and cultural significance unfold. Applying Gestalt principles to packaging design, enriched with cultural inspirations, can significantly enhance the economic value of local agricultural products. This approach can elevate the visual appeal of the packaging and establish a profound connection between the consumer and the cultural narrative embedded in the product packaging, paving the way for sustained economic growth, community empowerment, and a more resilient agricultural economy.

Moreover, integrating cognitive psychology to investigate the human mind's intricate workings can help create packaging that resonates on a deeper level. By tapping into consumers' mental models, schemas, and heuristics, designers can design packaging experiences that feel intuitively familiar and effortlessly navigable, carefully selecting colours, typography, and imagery to evoke emotional responses and trigger memories, forging connections beyond mere product consumption. Mental models represent how people perceive and understand the world, built from past experiences, beliefs, cultural influences, and education (van den Broek et al., 2021). In packaging design, understanding consumers'

Odewole et al.,

mental models involves knowing how they expect certain products to look, feel, and function based on their prior experiences with similar items. Schemas are cognitive frameworks that help individuals organise and interpret information. In packaging design, schemas influence how consumers categorise products and what they expect from those categories. For example, a schema for “breakfast cereal” might include expectations of a colourful box, a clear description of the contents, and images of happy families enjoying breakfast. Heuristics are mental shortcuts, strategies the brain uses to make judgements quickly and efficiently, or rules of thumb that simplify decision-making (Santa & Drews, 2023). In packaging design, designers can leverage heuristics to create elements that catch consumers' attention, convey information effectively, and prompt them to purchase. For example, using bright colours or large fonts to highlight critical features can trigger heuristics that signal importance or value. With these, packaging becomes a conduit for shaping perceptions and influencing purchasing decisions through subtle cues and nuances, tapping into consumers' subconscious desires and aspirations.

This study embraces the rich tapestry of cultural symbolism and meaning explored in semiotics for packaging design. Using traditional patterns, indigenous motifs, iconic landmarks, and historical references, packaging design elements can infuse layers of meaning that speak to consumers' sense of belonging and pride. In this sense, packaging transcends its utilitarian function, becoming a vehicle for cultural expression and storytelling. For instance, using semiotic analysis, Erlyana (2019) observed that a food packaging design possesses both visual appeal and practical functionality, which are considered excellent when paired with precise communication advancements and the incorporation of captivating visual elements. Sutiah et al. (2023) explored various signs utilised in modern drink advertisements, classifying them as indices, icons, and symbols, unveiling the strategic utilisation by advertisers to

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27
communicate nuanced messages, emotions, and aspirations to their audience.

Discussions

Drawing from Liu et al. (2024), one of the key barriers to sustainable packaging design lies in the lack of cultural elements, which often results in generic and non-distinctive packaging. Applying visual design theories to packaging design offers a powerful means of enhancing aesthetic appeal and cultural significance. Research demonstrates that when visual design theories such as Gestalt principles, cognitive psychology, and semiotics are strategically integrated, designers create functional yet visually compelling packaging that is both intellectually engaging and emotionally resonant (Oladumiye, 2018). In this sense, packaging design becomes a transformative practice that bridges visual culture, consumer psychology, and sustainable economic development. This transformation is particularly relevant in local agricultural products, where integrating cultural identity into packaging design can substantially elevate product value and consumer engagement (Zhou, 2023).

Rather than treating visual design theories as isolated tools, this study demonstrates how they can work synergistically to create packaging that is visually attractive, cognitively accessible, and culturally meaningful. In practical terms, a single packaging design can simultaneously capture attention through visual harmony (Gestalt principles), guide user interaction through intuitive layouts (cognitive psychology), and build emotional connections through culturally resonant symbols (semiotics). Such a multifaceted approach to packaging design positions packaging as a surface embellishment and a critical contributor to product value, a dynamic agent of communication and differentiation in competitive markets through which local agricultural producers can position their products as culturally rich, economically valuable, and socially meaningful. This has far-reaching implications for market success, cultural preservation, and community development.

Odewole et al.,

The success of culturally inspired packaging depends on participatory methods that include local voices and knowledge systems in the design process. This approach ensures that economic benefits are shared equitably and that cultural expressions remain authentic and empowering rather than exploited. However, implementing such design strategies must be approached with care. Designers must navigate challenges related to cultural appropriation, intellectual property, and the commercialisation of heritage. Moreover, implementing such packaging designs with environmentally friendly materials and improving communication strategies can help overcome other challenges highlighted by [Liu et al. \(2024\)](#), such as weak design consciousness and inefficient information transfer, thereby supporting both sustainability and market growth.

Practical Implications

The beauty of the integrative approach suggested in this study lies in its ability to synthesise diverse perspectives into a cohesive and harmonious whole, where each element contributes to a unified and impactful packaging solution. Through this integrative lens, packaging transcends its role as a mere vessel for goods, transforming into a potent tool for communication, expression, and cultural exchange. This approach transcends the traditional boundaries of individual disciplines, weaving together insights from diverse fields to create packaging solutions that captivate consumers' attention and resonate deeply with their cultural identities and preferences. At its core, the integrative approach recognises that effective packaging design is not merely about creating visually appealing graphics or catchy slogans but involves a profound understanding of consumer visual perception, cognitive mindset, and cultural symbolism.

Limitations of the Study and Directions for Further Research

The study was limited to theoretical analysis and conceptual strategy development. It did not

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27

involve primary data collection through field surveys or consumer testing. Instead, it used validated secondary sources and theoretical applications to conclude. The cultural references used were representative but not exhaustive of all ethnic traditions within Nigeria. While this study has conceptually demonstrated how integrating Gestalt principles, cognitive psychology, and semiotics into culture-inspired packaging design can enhance the economic value of local agricultural products in Nigeria, several areas remain open for further investigation. Subsequent studies should apply the integrative strategy proposed in this study to develop physical or digital packaging prototypes for selected Nigerian agricultural products. These designs can be tested in real or simulated markets to determine their impact on consumer engagement and product preference. Hence, future research should also empirically evaluate the effectiveness of the proposed culture-inspired packaging designs through quantitative and qualitative consumer studies. This may include surveys, focus groups, or experiments to measure consumer perception, emotional response, and purchase intention regarding culturally themed packaging prototypes for Nigeria's agro-based products.

CONCLUSIONS

The integrative approach presented in the study, rooted in design theory and cultural relevance, offers a viable pathway for repositioning Nigeria's agricultural products through packaging. By integrating indigenous visual motifs, traditional colour schemes, and locally resonant symbols, designers can create packaging that reflects Nigeria's rich cultural identity and also differentiates its local agricultural products in competitive markets. Integrating cultural features into local agricultural packaging represents a holistic approach to enhancing consumer perceptions, market competitiveness, and economic value. Drawing upon insights from Gestalt principles, cognitive psychology, and semiotics, designers can create packaging that captivates consumers visually and emotionally and

intellectually resonates with them. Moreover, by incorporating elements inspired by local culture, designers can establish a unique identity for agricultural products, differentiate them from competitors, and foster a deeper connection between consumers and the cultural heritage associated with the products. This, in turn, can lead to increased consumer engagement, brand loyalty, and market share for local agricultural producers.

Designers, marketers, and policymakers must continue exploring innovative ways to integrate cultural features into packaging design while ensuring sustainability, inclusivity, and community participation. In Nigeria, like other developing nations, incorporating cultural elements into the packaging design of local agricultural products can enhance consumer perceptions, strengthen brand loyalty, foster economic growth, and promote sustainability and inclusivity. By doing so, the economic value of local agricultural products can be elevated and contribute to preserving and celebrating cultural diversity within Nigerian communities. Continuing research and innovation in this area can further enhance the effectiveness and impact of culture-inspired packaging design in the agricultural sector. Further research should apply the suggested integrative approach in this study to develop culture-inspired packaging designs for local agricultural products in Nigeria using computer-aided tools. It should also examine consumer perceptions of the developed culture-inspired packaging designs for local agricultural products in Nigeria.

Recommendations

To translate the ideas proposed in this study into practice, there should be a deliberate effort to implement pilot programmes that develop and test culture-inspired packaging prototypes for local agricultural products in Nigeria. These prototypes should be introduced into physical and digital marketplaces for empirical assessment through consumer feedback, market response, and product

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27
performance metrics. This would provide valuable insights into the real-world effectiveness of culture-based packaging strategies.

Policy support is crucial for the widespread adoption of this design approach. Government agencies such as the Standards Organisation of Nigeria (SON) and the Nigerian Export Promotion Council (NEPC), in partnership with design institutions and the creative industry, should promote structured training and capacity-building programmes for designers. This will enable them to systematically apply visual design theories to develop visually appealing, emotionally engaging, and culturally resonant packaging that enhances local agricultural product appeal and consumer trust.

Interdisciplinary collaborations should be fostered among academic researchers, design professionals, local artists, community-based creatives, agribusiness stakeholders, and marketing firms in the packaging design process. Collaborative co-creation models should be encouraged, where stakeholders from the design and agricultural sectors work together to embed authentic cultural expressions into product packaging. These collaborations will foster inclusivity and ensure that the resulting designs are deeply rooted in local realities and traditions, empowering communities economically and preserving intangible cultural heritage. This approach can lead to developing innovative packaging solutions that are sustainable, culturally expressive, and commercially viable.

Integrating design thinking and packaging aesthetics into agricultural training curricula is necessary, especially at vocational and tertiary levels. This integration will expose agro-entrepreneurs and students to the strategic role of design in value addition and brand identity. It will also encourage the next generation of agricultural professionals to view packaging not merely as a technical task but as a creative process that influences market perception and consumer behaviour.

National awareness campaigns should also be launched to educate the public on the economic

Odewole et al.,

and cultural value of effective packaging. Such campaigns can use radio, television, social media, and market exhibitions to share success stories, promote best practices, and sensitise consumers and producers to the role of culture-inspired packaging in influencing product perception and purchasing decisions. Emphasising packaging as a cultural asset, rather than a mere functional necessity, can change mindsets and elevate standards across the agro-sector.

CRedit Authorship Contribution Statement

Peter Oluwagbenga Odewole: Conceptualisation, Methodology, Writing – Original Draft, Writing – Review & Editing, Supervision. **Ebenezer Odji:** Resources, Validation. **Adebayo Abiodun Adeleye:** Formal Analysis, Investigation. **Benjamin Eni-itan F. Afolabi:** Project Administration, Data Curation. **Adedola Olayinka Adeyemi:** Investigation, Writing – Review & Editing.

Declaration of Competing Interest

The authors declare that there is no conflict of interest.

Ethical approval

Not applicable.

Data Availability

The data used in this study are available upon request.

Acknowledgments

The authors are thankful to Olabisi Onabanjo University and Lagos State University for providing the necessary support to complete this study.

REFERENCES

Cheng, J., Ye, J., Xi, L., & Xiao, W. (2014). Research on the cultural product design based on consumer cognition. In C. Stephanidis (Ed.), *HCI 2014 Posters, Part I, Communications in Computer and*

Sci. Technol. Arts Res. J., July. –Sep, 2025, 14(3), 15-27 Information Science (CCIS), 434, 13–18. Springer, Cham. https://doi.org/10.1007/978-3-319-07857-1_3

de Mendonça, M. C., Cardoso, F., & de Sousa, R. P. L. (2021). Branding strategies in specialty coffee packaging design: Semiotic analysis of visual and verbal signs. *e-Revista LOGO, 10(2), 1–20. <http://doi.org/10.26771/e-Revista.LOGO/2021.2.01>*

Erlyana, Y. (2019). Semiotic analysis of packaging designs in Promina puffs weaning food. *Advances in Social Science, Education and Humanities Research, 512, 133–138. <http://doi.org/10.2991/assehr.k.201230.026>*

Feng, L., Zhang, X., & Men, D. (2018). Research on the application of user experience design in agricultural product packaging design. *Advances in Intelligent Systems and Computing, 585, 182–189. https://doi.org/10.1007/978-3-319-60495-4_19*

Huo, B. & Liu, J. (2023). Based on the packaging design of agricultural products under rural revitalization. *Highlights in Art and Design, 4(1), 140–144. <https://doi.org/10.54097/hiaad.v4i1.12114>*

Khamis, M. H., Azni, Z. M., Aziz, S. H. A., & Aminordin, A. (2023). The integration of Gestalt theory to the graphic design. *International Journal of Academic Research in Business and Social Sciences, 13(6), 2496–2502. <https://doi.org/10.6007/IJARBS/v13-i6/15449>*

Kwaku, A. R., & Fan, Q. (2020). Effect of good product design and packaging on market value and the performance of agricultural products in the Ghanaian market. *Open Access Library Journal, 7, e6714. <https://doi.org/10.4236/oalib.1106714>*

Li, M. (2021). Observation on the expression of regional culture in packaging design. *Proceedings of Business and Economic Studies, 24(3), 14–18. <https://doi.org/10.26689/pbes.v4i3.2181>*

Lin, Y.J. & Lin, R.T. (2022). A study on framework development and ritual design factors affecting consumers' preferences for

Odewole et al.,

- modern cultural and creative product packaging. *Creative Education*, 13, 2612–2634. <https://doi.org/10.4236/ce.2022.138167>
- Ling, T., & Halabi, K. N. M. (2024). Investigating the influence of packaging design on consumer purchasing decisions: A study of Northeastern cereal agricultural products in Jilin, China. *International Journal of Academic Research in Business and Social Sciences*, 14(8), 2494–2505. <https://doi.org/10.6007/IJARBS/v14-i8/22472>
- Liu, X., Yang, R., Wang, C., & Chen, Y. (2024). Optimization of brand packaging design of agricultural products under the perspective of regional culture. *Advances in Social Science, Education and Humanities Research*, 867, 792–801. https://doi.org/10.2991/978-2-38476-297-2_96
- Merrikhpour, Z. (2022). Investigating the relationship of products Gestalt in their sales by kansei engineering: A case study in top 10 best-sellers in electronic products in 2020. *Journal of Design Thinking*, 2(2), 229–238. <https://doi.org/10.22059/JDT.2022.339076.1067>
- Nomishan, T. S. & Sani, A. S. (2023). Intangible cultural heritage protection and Nigeria's heritage legislation. *Santander Art and Culture Law Review*, 2(9), 293–320. <https://doi.org/10.4467/2450050XSNR.23.032.18652>
- Odji, E., Odewole, P. O., & Oladumiye, E. B. (2019). Application of design theories and principles for improving local agricultural products and packaging design aesthetics for optimized economic value. *International Journal of Agriculture and Earth Science*, 5(2), 1–11. <https://doi.org/10.5281/zenodo.3402033>
- Oladumiye, E. B. (2018). Graphic design theory research and application in packaging technology. *Art and Design Review*, 6, 29–42. <https://doi.org/10.4236/adr.2018.61003>
- Owan, V. J., Ndibe, V. C., & Anyanwu, C. C. (2020). Diversification and economic growth. *A Peer-reviewed Official International Journal of Wollega University, Ethiopia*
- Sci. Technol. Arts Res. J.*, July. –Sep, 2025, 14(3), 15-27 in Nigeria (1981–2016): An econometric approach based on ordinary least squares (OLS). *European Journal of Sustainable Development Research*, 4(4), em0131. <https://doi.org/10.29333/ejosdr/8285>
- Roy, H. (2024). The impact of perception on cognitive psychology. *Int J Sch Cogn Psycho*, 10(12), 1000336. <https://www.longdom.org/open-access/the-impact-of-perception-on-cognitive-psychology.pdf>
- Santa, J. C. & Drews, S. (2023). Heuristic processing of green advertising: Review and policy implications. *Ecological Economics*, 206, 107760. <https://doi.org/10.1016/j.ecolecon.2023.107760>
- Schifferstein, H. N. J., Lemke, A., & de Boer, M. (2022). An exploratory study using graphic design to communicate consumer benefits on food packaging. *Food Quality and Preference*, 97, 104458. <https://doi.org/10.1016/j.foodqual.2021.104458>
- Shavitt, S. & Cho, H. (2016). Culture and consumer behavior: The role of horizontal and vertical cultural factors. *Curr Opin Psychol.*, 8, 149–154. <https://doi.org/10.1016/j.copsy.2015.11.007>
- Shen, Q. (2020). Research on the application of regional cultural visual language in the packaging design of local specialties. *Advances in Social Science, Education and Humanities Research*, 515, 649–652. <https://doi.org/10.2991/assehr.k.210106.124>
- Sutiah, Q. I., & Qamariah, Z. (2023). Semiotics analysis of modern drink advertisements on the Palangkaraya cafe instagram account. *Channing: Journal of English Language Education and Literature*, 8(2), 38–47. <https://doi.org/10.30599/channing.v8i2.2844>
- van den Broek, K. L., Luomba, J., van den Broek, J., & Fischer, H. (2021). Evaluating the application of the mental model mapping Tool (M-Tool). *Frontiers in Psychology*, 12, 761882. <https://doi.org/10.3389/fpsyg.2021.761882>
- Wei, N. (2020). On the application and development of design aesthetics in product

- Odewole et al.,
packaging design. *Learning & Education*,
10(5), 99–100. <https://doi.org/10.18282/le.v10i5.2687>
- Yusoff, I. S. M. (2024). Cognitive ergonomics approach in food packaging design influence on purchase decisions among Klang Valley consumers, Malaysia. *Jurnal Pengguna Malaysia*, 40(2), 38–59. <https://jpmjurnal.com/jpm/article/view/264>
- Zhao, Z., Zheng, H., & Liu, Y. (2022). The appearance design of agricultural product packaging art style under the intelligent computer aid. *Computer-Aided Design & Applications*, 19(S3), 164–173. [https://www.cad-journal.net/files/vol_19/CAD_19\(S3\)_2022_164-173.pdf](https://www.cad-journal.net/files/vol_19/CAD_19(S3)_2022_164-173.pdf)
- Zhou, C. (2023). When regional traditional culture meets agricultural product brand packaging design. *Highlights in Art and Design*, 2(2), 14–16. <https://doi.org/10.54097/hiaad.v2i2.6150>