

Research on the Application of Illustration Elements in the Packaging of Local Speciality Agricultural Products—Taking Yantai Apples as an Example

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Abstract: Taking Yantai apples as the research object, this study explores the application of illustration elements in the packaging of local speciality agricultural products and its impact on the market competitiveness and cultural expression of the products. By comprehensively applying the research methods of literature review and case study analysis, this study aims to reveal the actual effects and consumer perceptions of illustration elements in the packaging design of agricultural products. The results show that the innovative integration of illustration elements significantly enhances the attractiveness of the carton packaging of Yantai apples, and effectively conveys the local characteristics and cultural connotations. Consumer survey feedback shows that illustration design with regional characteristics can stimulate purchase motivation and enhance brand identity. At the same time, this study also points out that the design process needs to balance the cultural heritage and commercial objectives to ensure that the illustration elements are aesthetically pleasing to consumers. This study proposes a series of innovative strategies and suggestions for packaging design of agricultural products, aiming to promote the branding and market expansion of local speciality agricultural products, and to provide theoretical support and guidance for research and practice in related fields.

1. Introduction

In the wave of global economic integration, local specialty agricultural products are experiencing unprecedented market competition. Packaging design, as a bridge of communication between products and consumers, not only undertakes the responsibility of protecting commodities, but also is the key to convey regional characteristics, cultural values and shape the brand image [1]. Local specialty agricultural products represented by Yantai apples have remarkable competitiveness in domestic and international markets by virtue of their unique geographical indications and quality advantages. However, how to further enhance its market competitiveness through packaging design

has become the core issue of brand development.

This study aims to deeply explore the application of illustration elements in the carton packaging of local characteristic agricultural products, and analyze its role in enhancing the brand influence of Yantai apples, enriching the cultural experience of consumers as well as stimulating the purchase intention. The study will systematically analyze the relationship between the design principles, application strategies and consumer perception of illustration elements to provide innovative ideas for the packaging design of agricultural products and to promote the marketing and cultural inheritance of local specialty agricultural products.

This study will focus on the following key issues: the current situation and development trend of the application of illustration elements in agricultural product packaging design; the way of integrating illustration elements with the local characteristics and cultural values of Yantai apples; and how to optimize the application of illustration elements in order to achieve the goals of brand building and market expansion. By systematically studying these issues, this study expects to provide a research foundation for the field of agricultural product packaging design, provide strategic guidance for related enterprises and brand managers, and provide new research perspectives for the academic community.

2. Theoretical Foundations and Literature Review

2.1. Packaging Related Concepts

Packaging design, as an interdisciplinary field, has a theoretical foundation that integrates the knowledge systems of multiple fields such as visual art, industrial design, and marketing [2]. The core principles of this field include functionality, aesthetics, information communication and brand identity, aiming to achieve product protection, visual appeal, information transparency and brand impression enhancement. The principle of functionality ensures the basic protective function of packaging; the principle of aesthetics enhances the visual impact of packaging; the principle of information communication ensures that consumers can quickly understand the characteristics of the product; and the principle of brand identity reinforces the brand image through packaging design.

2.2. Concepts related to illustration

As a key visual element in packaging design, the application of illustration not only enriches the visual expression of the product, but also enhances the emotional connection between consumers and the brand [3]. Existing literature shows that illustration can deepen consumers' knowledge of products and promote brand differentiation through narrative design. Case studies further confirm that the creative use of illustration can give new market vitality to traditional products. Local characteristics and cultural expressions play a crucial role in packaging design. The incorporation of geographical indications, traditional patterns, colors and local stories together constitute the unique cultural identity of a product, which helps to highlight its uniqueness in the globalized market. The literature review points out that the effective communication of local characteristics through packaging design can enhance the cultural value and market competitiveness of products. Based on the above theory, this study will deeply analyze the application of illustration elements in the carton packaging of Yantai apples and explore its role in enhancing the market competitiveness and cultural expression of local characteristics of agricultural products. By systematically combing the existing literature, this study aims to provide theoretical guidance and empirical support for the packaging design of agricultural products, and to promote the brand building and cultural inheritance of local specialty agricultural products.

2.3. The role of illustration elements in visual design

Illustration is an important form of visual art with unique expressive and infectious power [4]. Compared with other visual art forms such as photography, painting, graphic design, etc., illustration has unique characteristics in the following aspects. The first is the flexibility of expression, illustration can freely combine reality and imagination, can be both realistic and abstract, to create a creative and personalized visual effect. This flexibility makes illustration adapt to a variety of design needs, from children's picture books to advertising are widely used. Secondly, it is strong in conveying emotion. Illustration can directly convey emotion and atmosphere through color, line, composition and other elements. For example, warm hues and soft lines can create a warm feeling, while bright colors and exaggerated shapes can convey energy and passion. Finally, in terms of storytelling and narrative ability, illustration is able to tell stories and convey information in visual form. This makes illustration particularly important in narrative advertising, product packaging and brand storytelling. It not only attracts the viewer's attention, but also enhances the viewer's memory and emotional resonance.

Local characteristics refer to the unique natural, cultural, historical and other characteristics of a particular region, which are often reflected and spread in local agricultural products [5]. As an important medium for conveying local characteristics, the design of agricultural product packaging not only reflects the quality of the product, but also carries rich cultural information [6]. First of all, it is to the regional identification, many local characteristics of agricultural products usually use regional identification in packaging, such as geographical indications, local names, specialty symbols and so on. These logos are not only the identity symbols of the products, but also help to enhance consumers' trust and recognition of the products. Secondly, for the use of cultural symbols, local cultural symbols such as traditional art, folklore patterns, local legends, etc., are often used as elements of packaging design. These symbols not only enhance the cultural attributes of the product, but also stimulate consumers' sense of cultural identity [7]. For example, certain local specialties will use the unique local craft patterns as the inspiration for package design. Finally for the combination of flavor and culture, local specialty agricultural products not only represent unique flavor, but also specific cultural experience. Taking Yantai apples as an example, Yantai apples are not only the specialties of Yantai region, but also their packaging design often combines local customs and cultural stories to convey a unique cultural experience to consumers.

3. Yantai apples, their cultural characteristics and packaging status

Yantai apple, as a famous geographical indication product in China, originates from the scenic Yantai City, Shandong Province, where its cultivation history spans over a century and has become an important part of the local culture [8]. With its excellent quality and unique flavor, Yantai apples not only enjoy a great reputation in the domestic market, but also have a high reputation in the international market. However, although Yantai apples have made certain achievements in brand building, their brand image and market performance still need to be further improved in the globalized market environment. In the existing package design, Yantai apples have not fully utilized illustration elements to show their rich cultural connotation and local characteristics. The current packaging design mostly adopts traditional patterns and colors, but lacks creative expressions that are deeply integrated with the cultural characteristics of Yantai apples. The application of illustration elements still remains at the level of surface decoration, failing to effectively convey the historical tradition and cultural value of Yantai apples.

3.1. The inadequacy of illustration in the packaging of Yantai apples

3.1.1. Homogenization of illustration styles

Lack of innovation, despite the variety of illustration styles, many designs tend to be homogenized and lack innovation and uniqueness. This may lead to consumers' aesthetic fatigue and reduce the attractiveness and recognition of the brand. The phenomenon of following the trend, some brands tend to imitate other successful cases when designing illustrations, lacking unique brand personality and cultural characteristics, leading to the emergence of a large number of similar designs in the market, weakening the brand's competitive advantage of differentiation. As shown in Figure 1.



Figure 1: Illustration of "Yantai Red Fuji Apple" packaging.

3.1.2. Insufficient depth of cultural expression

In through the survey many packaging illustrations mostly stay in the surface treatment, part of the illustration design in the cultural expression only stay on the surface, lack of in-depth cultural connotation and storytelling. For example, it only depicts the local landscape or cultural symbols, but fails to dig deeper and convey the cultural stories and values behind. Misuse of cultural symbols: The misuse of cultural symbols in some packaging designs leads to too many design elements, which affects the overall aesthetics and visual effect. At the same time, the misuse of cultural symbols may also trigger consumers' cultural identity fatigue. As shown in Figure 2.



Figure 2: Yantai Apple Plain Packaging Illustration.

3.1.3. Deficiencies in consumer feedback

There are many packaging illustrations about Yantai apples on the market at present, and most of

them lack consumer research at the initial stage of design. In the process of illustration design, many brands lack sufficient consumer research and fail to accurately grasp consumers' aesthetic needs and cultural preferences. As shown in Figure 3, this may lead to the design of illustration elements that fail to effectively attract target consumers. Neglecting consumer experience: Some designs focus only on visual effects, neglecting the actual experience of consumers in the process of using the product. For example, complex illustration designs may increase printing costs and packaging complexity, affecting consumer convenience.



Figure 3: Shandong Yantai Apple Packaging Illustration

4. Cultural Adaptability Analysis of Illustration Elements

4.1. The main points of illustration elements in packaging design

The first and most important thing in the drawing process of illustration is that it is intuitive and easy to understand. Illustration can directly convey information through vivid images, so that consumers can understand at a glance. Compared with text, illustration is easier for consumers to understand and remember, especially in packaging design, can quickly attract the attention of consumers. Secondly, illustration should have emotional expression, and good illustration has strong emotional expression ability. Through color, line and composition and other elements, illustration can convey rich emotions, such as joy, warmth, nostalgia and so on. This emotional transfer can not only enhance the visual experience of consumers, but also increase the affinity and attractiveness of the product. Then the important thing is creativity and aesthetics, illustration in a way, belongs to the artwork, and illustration has a high degree of creativity and artistry, which can add aesthetic value to the packaging design. Compared with photography or text, illustration can show the designer's creativity and make the product packaging more unique and artistic. Finally, it is diversity and flexibility, illustration is different from traditional painting, with a variety of painting styles, which is precisely why the style and form of illustration is diverse, according to different product characteristics and market demand for flexible adjustment. Whether it is realistic style, cartoon style, or abstract art, illustration can be adapted to different design needs, creating a rich variety of visual effects.

4.2. The appeal of different styles of illustration to different consumer groups

4.2.1. Realistic style

Realistic style illustrations attract consumers who focus on product quality and realism through fine detailing and realistic color representation. This type of illustration often conveys the natural beauty and high quality of the product, and is suitable for the mid- to high-end market and mature consumer groups. Realistic illustrations, different from traditional photography and physical photos,

are more artistic and advanced.

4.2.2. Cartoon style

Cartoon style illustrations attract young consumers and children through exaggerated lines and rich colors. These illustrations are usually fun and approachable, and can arouse the interest and resonance of young consumers, which is suitable for children's food and FMCG markets. While cartoon style illustrations are approachable and creative in their visual communication, they also have some limitations. Its drawbacks mainly include that it may be perceived as lacking in maturity and professionalism, and is not suitable for certain professional or technical occasions; the communication of information may be over-simplified with a loss of details, affecting completeness; homogenization of styles may lead to a lack of diversity in the design work, causing aesthetic fatigue among consumers; and inappropriate design may touch on issues of cultural sensitivity, triggering unnecessary controversy. Therefore, designers need to carefully consider the applicability and potential impact of cartoon style when using it.

4.2.3. Traditional art styles

Traditional art style illustrations attract consumers interested in culture and history by incorporating local cultural elements. This type of illustration can convey a strong cultural atmosphere and sense of history, which is suitable for the market of local specialties and cultural products, especially in the festival and gift market with high attraction. Traditional art style illustrations occupy a place in the field of visual arts with their deep cultural heritage and unique aesthetic value. Its advantages include the ability to convey rich historical and cultural stories, a high degree of artistic and aesthetic appeal, and the ability to inspire emotional resonance and cultural identity in specific audience groups. However, there are also limitations to this style, such as it may not easily appeal to young consumers who seek modernity, it is more difficult to innovate and blend traditional and modern elements, there may be cultural barriers, the production costs are relatively high, and it may be less adaptable in a rapidly changing market. Therefore, traditional art style illustrations need to take into account the specific needs of their audience and the market environment when designing and applying them.

4.2.4. Abstract art style

Abstract art style illustrations attract consumers who pursue individuality and fashion through unique creativity and artistic expression. These illustrations are usually highly artistic and unique, suitable for high-end markets and fashion products, and can meet consumers' individual needs and aesthetic pursuits. Abstract art style illustration has significant advantages in packaging design, such as its unique visual language can significantly enhance brand recognition, high degree of creative freedom, can stimulate the emotional response of consumers, and has the universality across cultural boundaries. In addition, the sense of the times and the flexibility of design conveyed by the abstract style make it occupy a place in modern packaging design. However, there are some drawbacks to this style, including the potential for increased difficulty in consumer comprehension, limitations on the breadth of market targeting, the potential for unclear brand messaging at times, as well as the potential for higher production costs and dependence on fashion trends. Therefore, designers need to weigh the uniqueness and potential limitations of the abstract art style when adopting it to ensure that the design appeals to the target audience while accurately communicating the core values of the brand.

5. Conclusions and recommendations

5.1. Key findings

This study analyzes the current situation of the application of illustration elements in Yantai apple packaging and its impact, and comes up with the following main findings: firstly, for the enhancement of the visual attractiveness of illustration, illustration elements should significantly enhance the visual attractiveness of Yantai apple packaging. The rich and varied illustration styles and color applications make the products more eye-catching on the shelves, attract consumers' attention and increase the market competitiveness of the products. Secondly, it is the transmission of cultural connotation. The illustration elements enhance the cultural added value of the packaging by expressing the local culture and stories of Yantai. The illustration not only shows the natural scenery and humanistic landscape of Yantai, but also conveys the local characteristics and historical background, so that consumers can feel the cultural atmosphere of Yantai while purchasing the product. On the other hand, the enhancement of brand identity and loyalty, illustration elements enhance consumers' identity and loyalty to the brand through emotional expression and cultural transmission. Rich in emotional and cultural connotations of the illustration design, not only make the product more affinity, but also able to cause emotional resonance of consumers, enhance the attractiveness of the brand and market recognition.

5.2. Design suggestions for the Yantai Apple brand

The initial phase of the process entails the implementation of a unified visual identity system, with the objective of ensuring brand consistency across all product lines. This entails the establishment of a consistent illustration style and design elements, in addition to the harmonisation of visual elements across different product categories. This will assist in enhancing overall brand recognition and market competitiveness. Brand visual design guidelines can be formulated to clarify the norms of illustration style, colour application and pattern design, thereby ensuring consistency of brand image. Secondly, it is necessary to conduct an in-depth analysis of the local culture and historical stories of Yantai, and integrate them into the illustration design. By incorporating information about the planting history, production process and local legends of Yantai apples, the cultural depth and storytelling of the packaging can be enhanced, thereby increasing the cultural added value of the product. To illustrate, a series of illustrations can be designed to demonstrate the natural landscape of Yantai in different seasons and the labour scenes of fruit farmers, thereby enhancing the cultural connotation and emotional resonance of the product. Subsequently, it would be beneficial to innovate the illustration style in order to encourage designers to engage in creative and stylistic innovation, and to experiment with a greater variety of illustration styles and expression methods. Such elements could be combined with modern art and fashion design trends to create a distinctive artistic packaging design, thereby attracting a larger consumer base and appealing to the high-end market. For example, illustration artists may be engaged to collaborate in the design of limited and special edition packaging, thereby enhancing the product's distinctiveness and appeal as a collector's item. Ultimately, in response to the diverse requirements of consumers, there is a need to enhance the provision of personalised customisation services, thereby meeting the individual needs of consumers. The creation of bespoke illustrations and packaging can be tailored according to consumer preferences and requirements, thus rendering the product more personalised and distinctive. As an illustration, customised packaging could be launched during festive seasons, thereby meeting consumers' needs for gift-giving and increasing the market attractiveness and sales of the product.

6. Research limitations and future research directions

This study mainly focuses on the packaging design of Yantai apples, and although it provides a wealth of cases and analyses, the research on its application in other local specialty agricultural products is relatively limited. This study adopts a qualitative research method and lacks quantitative data support. In future research, the specific impact of illustration elements on purchase decisions and brand identity can be further verified through consumer surveys and market data analysis.

Further research could investigate the application of these illustration elements to other local specialty agricultural products, such as Guizhou Maotai Wine, Fujian Tieguanyin, and Shaanxi Kiwifruit. The research will investigate the impact of illustration elements on the packaging design of agricultural products with diverse local characteristics. This will enable the exploration of the application effects and cultural expressions of illustration elements in different products, as well as the formulation of more universal design principles and methods. In conjunction with quantitative research techniques, the precise impact of illustration elements on consumer behaviour can be substantiated through consumer surveys, market data analysis and experimental studies. Experiments can be designed to test the influence of different illustration styles and design elements on consumers' purchase intention, brand identity and emotional resonance, thereby providing more scientific data support. The objective is to investigate the efficacy of illustration elements in the context of international markets, with a particular focus on their cultural adaptability. For instance, the packaging design of Chinese local agricultural products with distinctive characteristics may be examined in the context of the international market. This may involve an analysis of consumers' perceptions and acceptance of illustration elements in different cultural contexts, with a view to providing guidance and reference points for the internationalisation of local agricultural products.

Therefore, the application of illustration elements in Yantai apple packaging has an important role and value. Future research and practice should continue to optimize illustration design, strengthen cultural expression and brand consistency, and enhance the market competitiveness and brand influence of the product. At the same time, by expanding the research scope and methodology, we should explore the application potential of illustration elements in other local specialty agricultural products, and promote the innovation and development of local specialty agricultural product packaging design.

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