

The impact of specialty agricultural product packaging on consumer purchase intentions: a case study of Hainan's "one village, one product" agricultural products

Qingying JIANG

Nanhai Academy of Art, Haikou University of Economics, Haikou 571127, China

Abstract: This study focuses on evaluating the impact of specialty agricultural product packaging on consumer purchasing behavior, specifically examining packaging design, font type, packaging color, packaging material, and printing information. The target audience comprises consumers of agricultural products from Hainan's "One Village, One Product" initiative in China. Using a descriptive survey methodology with a sample size of 160 respondents, the study employs simple random sampling and data collection through standardized questionnaires. SPSS 21.0 software is utilized for data analysis, including correlation and regression analyses. Results indicate a significant correlation between packaging elements and consumer purchase intentions, with color and packaging design having the most substantial impact.

Key words: packaging elements; consumer purchasing behavior; perception; purchase intentions

1 Introduction

Effective packaging is pivotal for consumer purchasing decisions and brand loyalty in a competitive market [1][2][3]. Graphic elements, cultural integration, eco-friendly design, and technology contribute to market recognition and rural revitalization [4]. Color, material, and printing choices are vital for differentiation and influencing purchasing decisions [5]. Marketing strategy, emphasizing environmental sustainability [6], is crucial for a competitive advantage. Agricultural product packaging should focus on innovation, research, and development to meet consumer needs and address environmental concerns [6]. Research supports the impact of various packaging elements on consumer purchase intentions [7][8].

2 Research review

Agricultural product packaging is vital in the supply chain, with scholars exploring aspects like cultural creativity, regional integration, brand image, and green concepts. For example, Liu (2020) enhances cultural attributes [9], while focusing on strategies that emphasize regional culture and green concepts [10]. Diverse perspectives, from cultural integration to eco-friendly materials, offer insights for future development.

Effective packaging is essential in a competitive market, where colors, design, and visual appeal capture consumer attention. Packaging elements such as colors, graphics, and information influence brand recognition and consumer perceptions. Usability, handle dimensions, and packaging shape impact consumer experiences, while printed information

aids in product comparison. Packaging is a critical marketing tool, attracting consumers and influencing purchasing decisions.

Brand geographical indications significantly impact agricultural product packaging. Integrating geographical information enhances recognition and competitiveness. Chae et al. (2013) highlight its positive influence on consumers' willingness to purchase, fostering emotional connections. Brand geographical indications play a crucial role in establishing product quality, trust, and market differentiation [10]. Exploring this area provides new perspectives for packaging design and theoretical support for better market positioning.

Based on the above content, the following research hypothesis is proposed:

H1: Regional culture has a positive impact on purchasing behavior.

H2: Visual attractiveness has a positive impact on consumer purchasing behavior.

H3: The introduction of brand geographical indications has a positive impact on consumers' willingness to purchase.

H4: There is a positive correlation between consumer purchasing behavior and consumer perception.

3 Research methodology

This Hainan Province study on consumer purchasing behavior involved 160 participants from diverse demographics, with 179 collected questionnaires and 160 utilized for analysis. The survey involves geographical indication, regional culture, consumer cognition, visual attractiveness, and purchase intention, using Likert 5-point scales with 34 questions for each scale. Data collection methods included social media, on-site surveys, emails, postings, and referrals. SPSS 21.0 facilitated data analysis, revealing insights into consumer behavior and preferences in the Hainan market.

4 Results analysis

4.1 Reliability statistics

Reliability testing was conducted using the Cronbach's α model to describe the internal consistency of the instrument. The reliability statistical result for this model was 0.839, indicating high reliability. With five variables and 34 questionnaires used in the study, the Cronbach's alpha for the research questionnaire was found to be 0.839. This suggests that the assumptions for hypothesis testing and level regression are sufficient.

4.2 Frequency

Data collection utilized a questionnaire survey distributed among diverse demographics in terms of education, income, and age. The process involved two stages: a pre-survey with 50 manually distributed questionnaires, refining the questionnaire based on feedback, and a formal survey using a combination of online and manual methods. The "Wenjuanxing" platform facilitated the online distribution of the survey. Out of 208 distributed questionnaires, 179 valid responses were collected, achieving an effective recovery rate of 86.05%. After eliminating invalid submissions, 160 usable questionnaires remained.

The demographic information obtained from the questionnaires distributed to 160 respondents is as follows, gender distribution: 36.3% male and 63.7% female. Age distribution: 38.8% are below 25 years old, 18.7% are between 25 and 40 years old, and 42.5% are between 40 and 60 years old. Occupation distribution: 40% are students, 22.5% are professionals, 25% are businesspersons, and 12.5% are engaged in various income-generating activities. Education level: 21.3% have completed primary education, 18.7% have completed secondary education, and 60% have completed higher education.

4.3 Correlation analysis

The correlation analysis of variables such as geographical indication, regional culture, consumer cognition and visual attractiveness, and purchase intention is presented, with significance values ranging from 0.05 to 0.001.

H1: Correlation analysis reveals a significant positive correlation ($r=0.442^{**}$, $p=0.000$) between regional culture and consumer perception, supporting H1.

H2: The correlation value ($r=0.716^{**}$) demonstrates a highly positive relationship between packaging elements and consumer purchasing behavior, confirming H2. This aligns with previous research findings.

H3: Correlation analysis indicates a positive correlation ($r=0.651^{**}$, $p=0.000$) between brand geographical indications and consumer purchasing behavior, supporting H3.

H4: Strong correlation ($r=0.759^{**}$, $p=0.000$) between brand geographical indications and consumer purchasing behavior supports H4. The findings emphasize the importance of brand geographical indications in shaping consumer behavior.

In summary, the data analysis substantiates the positive relationships between regional culture, visual attractiveness, brand geographical indications, consumer cognition, and consumer purchasing behavior. These insights contribute to understanding the factors influencing consumer decisions in the context of agricultural product packaging.

According to the ANOVA test, the hypothesis accepted using the F-value is 58.107. Regression analysis and correlation analysis were conducted to test the four hypotheses, providing the testing results for each hypothesis.

5 Conclusion and recommendations

Packaging significantly influences consumer perception and purchase intention, playing a crucial role in communicating product information. It conveys details about origin, ingredients, and usage, guiding consumer decisions. Visual elements (color, design, material) are vital, impacting consumer attraction and purchasing behavior [5]. Geographical indications build trust, while quality packaging materials enhance positive perceptions [10]. Aesthetic designs stimulate consumer interest [2]. It's crucial for markets and businesses to prioritize packaging quality and design in their marketing strategy to avoid product failure. Marketing managers must recognize packaging's strategic importance.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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