

A Study of Regional Image of Agricultural Product Impact on Purchase Intention

MO Fan

City Graduate School, City University Malaysia

Kuala Lumpur, Malaysia

E-mail: sylviaapple1986@hotmail.com

CHEE Weiming (Corresponding author)

City Graduate School, City University Malaysia

Kuala Lumpur, Malaysia

E-mail: cheewei@city.edu.my

Received: March 23, 2023 Accepted: May 22, 2023 Published: May 31, 2023

doi: 10.5296/jsss.v10i1.21028

URL: <https://doi.org/10.5296/jsss.v10i1.21028>

Abstract

This paper presents a theoretical model that focuses on enhancing consumers' purchase intention towards agricultural products by leveraging regional branding theory and customer perceived value. The aim is to boost the development of the agricultural industry, increase the added value and market competitiveness of agricultural products, and improve the efficiency and sustainability of agricultural production. To validate the relationship between regional image, perceived quality, and purchase intention, an online questionnaire survey was conducted involving 612 participants. The results indicate that the regional image of agricultural products significantly and positively influences both purchase intention and consumer perceived quality value. Moreover, perceived quality acts as a mediator between regional image and purchase intention. It is recommended that agricultural product enterprises maintain their regional image, enhance consumer perception, and stimulate purchase intention. Collaboration between enterprises and local governments can effectively promote the regional image of agricultural products. Furthermore, it is important to consider the country-of-origin effect within the same country and incorporate its impact on consumers into the customer perceived value variable. The study integrates consumers' perceived quality value and investigates the influence of regional image on purchase intentions, providing

agricultural companies with more objective and scientific guidance for their marketing activities.

Keywords: regional image, perceived quality, purchase intention

1. Introduction

China, being a vast agricultural country, has seen a growth in foreign exports of agricultural products in recent years, according to the Ministry of Agriculture and Rural Development. The total foreign exports of agricultural products reached US\$280.93 billion, representing an 18.7% increase in 2021. Among them, exports amounted to US\$93.17 billion, while imports amounted to US\$187.76 billion (Ministry of Agriculture and Rural Affairs of China, 2022). As consumer transformation and upgrading continue, consumers' brand awareness has been on the rise, and agricultural product enterprises must strengthen their brand building efforts to improve competitiveness. To support the development of regional brands, Chinese government issued a series of documents aimed at enhancing the branding of agricultural products. The regional image, an essential factor in brand construction and development of agricultural products, plays a vital role in identifying the quality of agricultural products. A positive regional image enhances the competitive advantage of regional agricultural product brands, thereby promoting economic growth. This study examines the influence of regional image on consumers' purchase intention, aiming to provide a theoretical basis for the brand construction and development of agricultural enterprises and the marketing of agricultural brands.

2. Literature Review and Research Hypothesis

2.1 Related Concepts

2.1.1 Regional Brand

Regional brands, also known as geographical brands, public brands, or collective brands, possess distinct characteristics such as geographical dependence, quasi-public goods nature, relevance to industry clusters, and subject diversity. Regional brands of agricultural products are commonly named in the format of "region + industry (product)". The region can refer to the name of a country, province, city, county, or even a village. For instance, examples of regional brands include Chilean Cheerios, Xinjiang Hami melon, Australian wheat, Hainan coconut, Thai fragrant rice, and FuLing squash. Foreign scholars have defined the connotation of regional branding in three ways: 1) The WTO has proposed the term Geographical Indication (GI) to describe the legal regime of a product associated with a specific geographical area, which protects the intellectual property rights of products specific to that area, as well as consumer expectations of the quality and reputation of that product. The specific nature, traditions or other factors of that geographical area give the product its unique quality, reputation and other specific characteristics; 2) the term 'Terroir' comes from the French language and is used to describe the product quality and taste characteristics of a particular geographical area and how these characteristics relate to the natural environment and human history of the area (Wilson, J. E., 2018). In the case of agricultural products, for example, factors such as the region's soil, climate, topography, and hydrology, as well as the

traditional skills and culture of the region's farmers, winemakers, and other people, combine to influence the quality and unique taste characteristics of the region's agricultural products; 3) Origin Labeling is a marking measure taken to protect a geographical indication, usually through a specific mark on the product's packaging or label to prove the product's place of origin. The quality and reputation of regional agricultural products, as well as consumer expectations of the credibility and value of that product can be protected by origin labeling (Osawa, S., and Kikutani, T., 2016).

Chinese scholars have defined the connotation of regional branding in more detail, with scholars defining regional branding in terms of five aspects: locality, socio-culturalism, consumer demand, marketing and economic growth. In terms of locality, a regional brand is a brand image and value that is formed in a certain geographical area due to the common characteristics of a specific geographical location, climate, culture and history (Yan S. and Choi, J., 2020; Liu Y. and Wang, X., 2022); it is a manifestation of regional culture that contains the history, tradition, culture and ecology of a geographical area (Yan, S., and Choi, J., 2020); it is a manifestation of a regional culture that contains the history, tradition, culture, and ecology of a certain geographical area (Zhang, J., et, Al, 2020); it is a collection of consumers' specific needs and perceptions of a brand in a certain geographical area (Zheng, X., et. Al., 2022); a brand image and brand value formed in a certain geographical region based on geographical features, cultural traditions, etc., through marketing and management (Shen, Y., et. Al., 2020); a means of industrial development, through the marketing and promotion of regional brands, to enhance the region's (Liu, Y., et al., 2022); and as a means of industrial development to enhance the visibility and influence of the region and promote regional economic development through the marketing of regional brands (Liu, J., et al., 2022). Although the concept of regional branding has been defined in different ways, in general, a regional brand is a brand image and value that has regional characteristics, incorporates historical, cultural, social and economic aspects, and is developed through marketing and consumer recognition, and is associated with a specific geographical area with unique qualities that can be attributed to the natural environment, human history or traditional skills of the area.

2.1.2 The Country-Of-Origin Image

Country-of-Origin Image (COOI) is the overall perception that a consumer has of a good from a particular country or region, and these perceptions will also influence, for example, his market evaluation and purchase choices (Munjal, S., 2014). The origin of agricultural products and its image are inextricably interdependent. Although it is agreed that there are quite a number of factors influencing the image and effect of origin, the following three are particularly important in terms of factors such as behavioral characteristics of consumption, behavioral patterns and reasons for decisions: firstly, environmental factors and sources of consumer behaviour; secondly, commodity attributes, intrinsic and extrinsic attributes; and thirdly, personal factors of the consumer. Most of the research on the image of origin, which has been examined by domestic and foreign researchers and scholars, constitutes a tendency. In 1965, Schooler introduced the concept of the image of origin, which refers to the general perception consumers have regarding goods originating from a specific country or

geographical area. This perception is shaped by consumers' overall impressions of the product's production and marketing in that particular country or region over time. Building upon this notion, the present study takes into consideration the characteristics of agricultural products and synthesizes the viewpoints of previous researchers to further define the origin image of agricultural products. Specifically, it encompasses consumers' comprehensive perception of the natural resources, environmental requirements, historical and cultural aspects associated with an agricultural product, as well as the production technology employed in its place of origin, such origin image directly influences consumers' purchase intention.

2.1.3 The Country-Of-Origin Effect

The origin image effect refers to the influence of consumers' diverse impressions and perceptions regarding the origin of a particular agricultural product on their purchasing behavior. When the origin of the same agricultural product varies, consumers develop distinct impressions based on factors such as quality, reputation, authenticity, and cultural associations associated with specific regions. These impressions, in turn, play a crucial role in shaping consumers' purchasing decisions, as they attribute different values and preferences to products based on their perceived origin. Therefore, the origin image effect emphasizes the significance of consumers' perceptions of the product's origin in influencing their buying behavior. Based on cognitive-emotional system theory, in the study of the mechanism of the influence of external cues of agricultural products on consumers' willingness to purchase, it was found that: green and ecological origin images tend to associate people with high product quality and enhance purchase intention (Tu, H., and Zhu, Q., 2020); the eco-label of a product is a reflection of the product's functional, environmental and social values. In a study on the relationship between origin image, perceived value and brand trust of agricultural products in the e-commerce environment, it was found that origin image has a significant positive effect on both perceived value and brand trust (He, L., et al., 2018); consumers' perceived attitude towards green certification has the greatest influence on consumers' purchasing behaviour (Yang, D. et al., 2021). Currently, the theory of origin effect has gained significant traction in the realm of international marketing. It has been extensively employed to examine the impact of the country of origin image on consumer behavior, particularly in relation to imported food products. The country image is intricately linked to the evaluation of products by consumers. When consumers perceive that the country of origin possesses advantageous human and natural environments that align with the product, it engenders a highly favorable evaluation of the product (Zhu, Z., and Li Z., 2017). The image of a product's origin is an important label for the quality of the product and can influence consumers' perceived risk and their willingness to buy. As developed countries tend to be ahead of less developed countries in terms of economic development and technological conditions, most consumers are more inclined to develop a preference for products from developed countries (Ahmed et al., 2013); this is also confirmed in studies on the relationship between image of origin and consumer food preferences, where consumers prefer imported food from developed countries compared to less developed countries (Thgersen et al., 2018).

Building upon these concepts, this study introduces consumer quality as an intermediary

variable to investigate the underlying mechanism through which the origin image of agricultural products impacts consumers' purchase intention. By doing so, it aims to establish a theoretical foundation for the development of agricultural product branding and effective brand marketing strategies. The findings of this study will contribute to enhancing our understanding of the factors that shape consumers' perception and behavior towards agricultural products, thereby providing valuable insights for the successful brand building and marketing of such products.

2.2 Research Hypothesis

2.2.1 Regional Image and Purchase Intention

Regional image is a holistic perception formed by consumers of the natural, cultural, technological and economic environment in which agricultural products originate. Numerous studies have shown that the regional image of an agricultural product influences consumers' willingness to buy by affecting their perception of the brand. Natural endowments and a unique natural environment can strengthen consumers' perceptions of the nutritious, green and healthy nature of the region's agricultural products, thus stimulating their willingness to buy. Based on the above analysis, the following hypotheses are proposed:

H1: The regional image of agricultural products has a significant positive impact on consumers' purchase intention.

2.2.2 Regional Image and Perceived Quality

One of the most popular studies of the image effect of origin is the halo effect. When consumers are unfamiliar with a product from a country or region, the place of origin is used as a 'halo' for consumers to speculate on the quality of the product, and this 'halo' has the most direct effect on consumer attitudes, known as the halo effect (Han, 1988); specifically, consumers will infer the quality of a product based on the natural, economic, technological and even folklore of the region. Therefore, the regional image to some extent highlights the strength of the product and the strength of the brand, and the better the regional image of the agricultural product, the higher the consumers' evaluation of the quality of the product in the region. Based on the above analysis, the research hypothesis is proposed:

H2: Regional image of agricultural products has a significant positive effect on consumers' perceived quality.

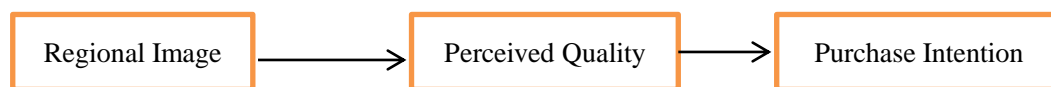
2.2.3 Mediating Role of Perceived Quality

Purchase intention is a subjective attitude of consumers when shopping, reflecting the degree of preference consumers have for a brand or product (Nancy et al., 2012), and is usually influenced by multiple factors such as consumers' perceived quality, origin, brand, and word of mouth (Liu, Y., et. Al., 2019). In the process of making purchase decisions, consumers often rely on a combination of internal attributes and external cues to assess whether a product aligns with their needs. However, when it comes to agricultural products, assessing their internal attributes prior to purchase is challenging. As a result, consumers rely on external cues such as regional image, packaging, and word-of-mouth to form judgments

about the product's quality. According to the theory of planned behavior, the more positively consumers perceive or hold attitudes towards the image of the product's region of origin, the higher they perceive the product's quality to be. Consequently, their willingness to purchase the agricultural product strengthens. Building on the aforementioned analysis, this study proposes a research hypothesis that explores these dynamics:

H3: Perceived quality plays a mediating role between the regional image of agricultural products and purchase intention.

Based on the above analysis, this study constructs a research model based on the S-O-R theory, with the image of the agricultural region as the external stimulus, perceived quality as the mediating variable and purchase intention as the behavioral outcome, as follows.



3. Research Design

3.1 Research Design

The data for this study was obtained by means of an online questionnaire and contains three parts. The first section is the regional image of the agricultural product regional brand, whose specific measures include six aspects: regional natural environment image, regional industry image, regional economic image, regional enterprise image and regional human image. The second and third sections are the perceived quality value and purchase intention of consumers respectively, both of which are generated by making appropriate adjustments with reference to existing established scales; The fourth section of the questionnaire focuses on capturing the demographic characteristics of the respondents. This includes gathering information on key demographic indicators such as gender, age, income, education, and occupation. It provides valuable insights into the profile of the participants involved in the study. In the first three sections of the questionnaire, a Likert 5-point scale is utilized to measure each question item. The scale ranges from 1, representing "strongly disagree," to 5, denoting "strongly agree." This standardized scoring system allows for consistent and comparable responses across the various questionnaire items.

3.2 Respondent Profiles

The socio-demographic information of the respondents play a vital role as the respondents represent the consumer purchase behaviour in China (with reference to educated and middle to upper income population). Table 3-1 reveals that the majority of the respondents (229 or 37.4% of the total) were aged 18-25. The second largest group of respondents (185) belonged to the age group of 26-35 which is 30.2% of total respondents. This means almost 70% of the total respondents belonged to the age group of 18–35.

Out of the total respondents of the study (621), 47.2% are male and 52.8% are female. It also shows the socio-demographics of the participants by illustrating the academic qualification of the participants. The majority of the respondents (433) of the survey have a higher education level qualification (undergraduates). The second highest value is (144), have the college

education level, take 23.5%, in total, there are 94.3% of respondents achieved higher education in the country. This can explained that group of these respondents belongs to the income level from 3000RMB to 10000 RMB per month. Most of them are hired by foreign company(56.2%), followed by state-owned enterprise(15.4%), and professionals(10.6%). According to the data presented in Table 6-3, it can be observed that the majority of the respondents currently reside in second-class cities, accounting for 44.6% of the total respondents. Following closely behind, 39.7% of the respondents reside in third-class cities.

Table 3.1. Socio-demographic Characteristics of Respondents (N=612)

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	male	289	47.2	47.2	47.2
	female	323	52.8	52.8	100.0
	Total	612	100.0	100.0	
Age	under 18	66	10.8	10.8	10.8
	18-25	229	37.4	37.4	48.2
	26-35	185	30.2	30.2	78.4
	36-45	99	16.2	16.2	94.6
	over 45	33	5.4	5.4	100.0
	Total	612	100.0	100.0	
Job Category	professionals	65	10.6	10.6	10.6
	private business owners	13	2.1	2.1	12.7
	freelancer	50	8.2	8.2	20.9
	Staff of public institutions	94	15.4	15.4	36.3
	Staff of foreign company	344	56.2	56.2	92.5
	government officers	38	6.2	6.2	98.7
	others	8	1.3	1.3	100.0
	Total	612	100.0	100.0	
	Income Level	under 3000	37	6.0	6.0
3001-6000		394	64.4	64.4	70.4
6001-10000		107	17.5	17.5	87.9
over 10001		74	12.1	12.1	100.0
Total		612	100.0	100.0	
City Lived	first-class cities	73	11.9	11.9	11.9
	second-class cities	273	44.6	44.6	56.5
	third-class cities	243	39.7	39.7	96.2
	forth-class cities and under	15	2.5	2.5	98.7
	cities outside mainland China	8	1.3	1.3	100.0

	Total	612	100.0	100.0	
Education Level	postgraduates	15	2.5	2.5	2.5
	undergraduates	433	70.8	70.8	73.2
	college	144	23.5	23.5	96.7
	high school or under	20	3.3	3.3	100.0
	Total	612	100.0	100.0	

To summarize the findings presented in Table 3-1, it is evident that the majority of the respondents in the current study exhibit the following characteristics: they are predominantly young, highly educated, and belong to the upper middle income group within the country. Furthermore, the data indicates a balanced representation of male and female respondents. These socio-demographic factors hold significant importance as they can strongly influence consumer perceived value and purchase behavior. Understanding the demographic profile of the respondents helps in interpreting the study's results and drawing meaningful insights regarding the relationship between regional image, perceived value, and purchase intention.

4. Data Analysis and Hypotheses Test

4.1 Reliability and Validity Analysis

4.1.1 Reliability Analysis

The collected questionnaire data was analyzed and processed using SPSS 26.0. The results of the reliability analysis can be observed in Table 4-1. This analysis provides insights into the internal consistency and reliability of the questionnaire items, ensuring the robustness of the data for further statistical analysis and interpretation. The Cronbach alpha values for regional image, perceived quality and purchase intention were 0.802, and the alpha values for each image dimension were all above the accepted value of 0.6, namely regional image 0.687, perceived quality 0.807 and purchase intention 0.699, which have high reliability and indicate that the questionnaire has good internal consistency and the scale has high reliability.

4.1.2 Validity Analysis

The KMO (Kaiser-Meyer-Olkin) value obtained for this study was 0.773, exceeding the threshold of 0.7. This indicates a strong correlation between the variables and suggests that the data is suitable for factor analysis. Additionally, the p-value from the Bartlett's sphericity test was found to be less than 0.001, indicating that the variables are significantly correlated, further supporting the appropriateness of conducting factor analysis. During the exploratory factor analysis, all factor loadings were above 0.5, indicating a good level of correlation between the variables and their respective factors. The majority of factor loadings were concentrated between 0.7 and 0.8, suggesting a strong relationship between the variables and their underlying factors. Furthermore, the cumulative variance explained by the factors reached 76.991%, surpassing the accepted threshold of 60%. This indicates that the extracted factors account for a substantial amount of the total variance in the data. Overall, these results demonstrate the validity and reliability of the factor analysis conducted in this study.

Table 4.1. Customer Perceived Value-KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.						
Bartlett's Test of Sphericity				Approx. Chi-Square		
				df		
				Sig.		
				.773		
				8327.451		
				120		
				.000		
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.654	41.586	41.586	6.654	41.586	41.586
2	2.001	12.507	54.093	2.001	12.507	54.093
3	1.856	11.603	65.695	1.856	11.603	65.695
4	1.807	11.295	76.991	1.807	11.295	76.991
5	.493	3.081	80.072			
6	.467	2.922	82.994			
7	.449	2.807	85.800			
8	.439	2.746	88.547			
9	.416	2.599	91.146			
10	.394	2.465	93.611			
11	.384	2.398	96.008			
12	.361	2.258	98.267			
13	.077	.483	98.750			
14	.074	.464	99.214			
15	.064	.398	99.612			
16	.062	.388	100.000			

4.2 Factor Analysis

The results of the validation factor analysis, as presented in Table 4-2, indicate good data aggregation validity based on the calculated Average Variance Extracted (AVE) and Composite Reliability (CR) values. The AVE values for all factors ranged from 0.4 to 0.5, exceeding the accepted threshold of 0.4. This suggests that the extracted factors explain a substantial amount of the variance shared among the observed variables, indicating good convergent validity. Similarly, the CR values for all factors fell within the range of 0.6 to 0.9, surpassing the accepted threshold of 0.6. This indicates a high level of internal consistency and reliability among the items within each factor, supporting the construct's reliability. Taken together, these results affirm the data aggregation validity of the measurement model, implying that the observed variables reliably represent their underlying constructs and can be used to draw meaningful conclusions in subsequent analyses.

Table 4.2. AVE and CR validation

Factor	AVE	CR
Regional Image	0.697	0.919
Perceived Quality	0.736	0.933
Purchase intention	0.793	0.967

Furthermore, in assessing the discriminant validity of the model, it was observed that the square roots of AVE were substantially larger than the absolute values of the correlation coefficients of the latent variables in both their respective rows and columns. This finding suggests that the model exhibits good discriminant validity, indicating that the latent variables are distinct from one another and measure separate constructs (as shown in Table 4-2). Additionally, the overall fit indices of the model provide further support for its adequacy. The X^2/df ratio was 1.63, which is lower than the threshold of 3, indicating a good fit. The Root Mean Square Error of Approximation (RMSEA) value of 0.047 is also below the recommended threshold of 0.05, indicating a close fit between the model and the observed data. Moreover, the Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Non-Normed Fit Index (NNFI) all exceeded 0.9, further indicating a satisfactory fit of the model (as shown in Table 4-3). These results demonstrate that the model exhibits good discriminant validity and a well-fitting structure, providing confidence in its ability to accurately represent the relationships between the latent variables and the observed data.

Table 4.3. Model Goodness-of-fit Indices

indicators	χ^2	<i>df</i>	<i>p</i>	CMIN χ^2/df	GFI	RMSEA	RMR	CFI	NFI	NNFI
criteria	-	-	>0.05	<3	>0.9	<0.10	<0.05	>0.9	>0.9	>0.9
value	103.880	34	0.000	3.055	0.859	0.144	0.097	0.924	0.993	0.900
other index	TLI	AGFI	IFI	PGFI	PNFI	SRMR	RMSEA 90% CI			
criteria	>0.9	>0.9	>0.9	>0.9	>0.9	<0.1	-			
value	0.900	0.772	0.925	0.531	0.675	0.065	0.112 ~ 0.175			

Default Model: $\chi^2(45)=969.239, p=1.000$

4.3 Hypotheses Test

The results of the regression analysis, as presented in Table 4-4, reveal significant positive impacts of all dimensions of the regional image of agricultural products on consumers' willingness to buy. The dimensions include region image ($\beta = 6.249, p = 0.000 < 0.05$), industry image ($\beta = 4.037, p = 0.000 < 0.05$), enterprise image ($\beta = 5.291, p = 0.000 < 0.05$), and product image ($\beta = 4.400, p = 0.000 < 0.05$). These findings suggest that each aspect of the regional image has a substantial and positive influence on consumers' purchase intention. Furthermore, even after incorporating the mediating variable of consumers' perceived quality

into the analysis, the positive effect of the regional image of agricultural products on consumers' purchase intention remains significant. This result indicates that the positive impact of the regional image on consumers' willingness to purchase is not solely mediated by their perceived quality of the products. Consequently, the research hypothesis (H1) stating the positive effect of the regional image on consumers' willingness to purchase is supported by the empirical evidence derived from the analysis. These findings underscore the importance of regional image in shaping consumers' purchase behavior and highlight the need for agricultural product enterprises to strategically manage and enhance the regional image to stimulate consumer demand and strengthen market competitiveness.

Table 4.4. Regression Analysis on regional image to purchase intention

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF
	<i>B</i>	Std. Error	<i>Beta</i>			
Constant	1.177	0.103	-	9.583	0.000**	-
Natural Endowment Image	0.214	0.035	0.207	6.040	0.000*	1.518
Economic Image	0.143	0.034	0.137	4.161	0.039*	1.406
Humanistic Image	0.221	0.035	0.215	6.259	0.000*	1.519
Industrial Image	0.139	0.034	0.130	4.037	0.000*	1.343
Enterprise Image	0.181	0.034	0.180	5.291	0.000*	1.500
Product Image	0.156	0.035	0.149	4.400	0.000*	1.480
R^2	0.728					
Adjusted R^2	0.526					
<i>F-value</i>	$F(4,607)=114.016, p=0.000$					
D-W	1.898					
Dependent Variable: Purchase Intention						
* $p<0.05$ ** $p<0.01$						

Secondly, the regional image of agricultural products was found to have a significant positive impact on consumer perceived value, as demonstrated in Table 4-5. This finding provides support for hypothesis H2, which posits that the regional image of agricultural products has a significant positive impact on consumer perceived quality. The results suggest that the favorable regional image of agricultural products enhances consumers' perception of the value associated with these products. The positive associations formed between the regional image and consumer perceived value highlight the importance of effectively managing and promoting the regional image to foster positive consumer attitudes and preferences. The findings support the notion that the regional image of agricultural products plays a crucial role in shaping consumer perceived quality, further emphasizing the significance of regional branding and marketing strategies in the agricultural industry.

Table 4.5. Regression Analysis on regional image to perceived quality

	Unstandardized coefficients		Standardized coefficient	<i>t</i>	<i>p</i>	VIF
	<i>B</i>	Std. Error	<i>Beta</i>			
constant	0.002	0.273	-	0.007	0.995	-
regional image	1.100	0.114	0.699	9.674	0.000**	1.000
<i>R</i> 2	0.488					
<i>Adjusted R</i> 2	0.483					
<i>F</i> -value	<i>F</i> (1,98)=93.581, <i>p</i> =0.000					
D-W	2.075					
Dependent variable: Perceived Quality						
* <i>p</i> <0.05 ** <i>p</i> <0.01						

Lastly, the analysis conducted in Table 4-6 reveals that the regional image of agricultural products exerts a significant and positive influence on consumers' willingness to buy, and this relationship is mediated by perceived quality. Consequently, hypothesis H3, which suggests that perceived quality mediates the relationship between the regional image of agricultural products and purchase intentions, is supported by the findings. These results imply that the positive impact of the regional image on consumers' purchase intentions is partially explained by their perception of the quality associated with the agricultural products. The mediating role of perceived quality indicates that consumers' evaluation of the regional image directly influences their perception of the product's quality, which in turn influences their willingness to make a purchase. By recognizing the mediating role of perceived quality, agricultural enterprises can better understand the underlying mechanisms through which the regional image influences consumer behavior. This insight can inform marketing strategies that aim to enhance perceived quality, thereby further bolstering consumers' purchase intentions and fostering the overall success of agricultural product branding and marketing initiatives.

Table 4.6. Mediation effect of PQ between RI (respectively) and PI

	purchase intention	Perceived quality	purchase intention
constant	0.002 (0.007)	1.243** (3.879)	-0.337 (-1.208)
regional image	1.100** (<i>t</i> =9.674)	0.437** (<i>t</i> =3.271)	0.981** (<i>t</i> =8.602)
Perceived quality			0.273** (<i>t</i> =3.331)
sample	612	612	612
<i>R</i> 2	0.488	0.098	0.541
<i>Adjusted R</i> 2	0.483	0.089	0.532
<i>F</i> -value	<i>F</i> (1,98)=93.581, <i>p</i> =0.000	<i>F</i> (1,98)=10.701, <i>p</i> =0.001	<i>F</i> (2,97)=57.156, <i>p</i> =0.000
* <i>p</i> <0.05 ** <i>p</i> <0.01			

Furthermore, the analysis utilizing the Bootstrap method was employed to test for additional mediating effects. The results indicate that the mediating effect of perceived quality is partially mediated in the model, with a mediating effect value of 0.119, accounting for approximately 10.833% of the total effect (as shown in Table 4-7). Perceived quality refers to consumers' subjective evaluation of the quality of a product or service. While it holds importance in influencing consumers' purchase intentions, it is crucial to acknowledge that in the current context of evolving consumption patterns, rapid advancements in information technology, and the broadening scope of consumer perception, perceived quality alone does not serve as the sole mediating factor when consumers evaluate a specific product or service. Other factors, including price, brand reputation, and advertising, also play a role in shaping consumers' willingness to make a purchase. Hence, it can be concluded that perceived quality partially mediates the relationship between the regional image of agricultural products and purchase intentions. It suggests that while perceived quality has a significant influence on consumers' purchase intentions, other factors come into play in shaping consumer behavior. Understanding the various factors and their interplay can aid agricultural enterprises in developing comprehensive marketing strategies that cater to the diverse considerations of consumers and effectively promote their products in the market.

Table 4.7. Summary of mediating effect

item	Conclusion	c total effect	a*b mediating effect	c' direct effect	Effect proportion formula	Effect ratio
regional image=>perceived quality=>purchase intention	partial	1.100	0.119	0.981	$a * b / c$	10.833%

5. Conclusion

The results of the empirical analysis above show that the regional image of agricultural products has a significant positive effect on both consumers' perceived quality and purchase intention. Additionally, perceived quality partially mediates the influence of the regional image of agricultural products on consumers' purchase intention, with its mediating effect accounting for 10.833% of the total effect. Based on these findings, the following recommendations are made:

To ensure the sustainable development of agricultural brands, it is essential to enhance the regional image of agricultural products. Agricultural enterprises should prioritize understanding consumers' attitudes and evaluations of the product's origin image during the brand construction and development process. To cultivate a positive reputation and encourage word-of-mouth promotion for agricultural brands, enterprises should emphasize favorable evaluations of the origin image within their brand messaging. Furthermore, leveraging new media platforms can effectively enhance the publicity and promotion of origin images. Given the significant positive impact of the regional image on consumers' perceived quality and purchase intentions, it is crucial to strengthen the publicity and promotion of the regional

image of agricultural products. This can be accomplished by establishing local brands, improving the quality of agricultural products, and enhancing the production environment. These efforts not only contribute to enhancing the perceived quality of agricultural products but also foster the long-term development of regional agricultural brands. By continuously focusing on the regional image and investing in brand building, agricultural enterprises can establish a strong market presence and gain a competitive edge. Above all, agricultural enterprises should prioritize the enhancement of the regional image, integrate consumer feedback and evaluations, and employ strategic marketing techniques to foster positive perceptions and consumer engagement. By doing so, they can successfully build and develop strong agricultural brands that resonate with consumers and drive sustainable growth in the market.

To enhance consumers' perceived quality and stimulate their purchasing motivation, agricultural enterprises need to prioritize the preservation and advancement of the natural, technological, and cultural aspects of the product's place of origin. This will foster a positive perception of the regional image of agricultural products and contribute to a higher perceived quality among consumers. Moreover, enterprises should dedicate efforts to improving the overall quality of their products and services. This can be achieved through investments in research and development, optimizing product packaging design, enhancing distribution services, implementing effective quality supervision systems for agricultural products, and emphasizing the importance of brand protection. By implementing these measures, enterprises can establish a favorable brand reputation, which in turn stimulates consumers' desire to purchase. It is worth noting that while perceived quality partially mediates the influence of the regional image of agricultural products on consumers' willingness to buy, these proactive measures will further enhance consumer engagement and drive purchase behavior. By prioritizing the preservation of the place of origin's characteristics and continuously improving product quality and brand reputation, agricultural enterprises can effectively stimulate consumers' purchasing desire. These efforts, combined with the partially mediating role of perceived quality, will lead to increased consumer satisfaction and loyalty, ensuring the long-term success of agricultural brands in the market.

To foster the growth of regional agricultural product brands, it is essential to strengthen policy support and promote their construction. The government should take proactive measures by implementing favorable policies and providing financial assistance to the agricultural products industry. This support will encourage enterprises to increase their investment in research and development, thereby improving the overall quality and service standards of agricultural products. By enhancing product development and enhancing service levels, the development and sales of agricultural products can be significantly boosted. Consumer education and promotional activities play a crucial role in elevating consumers' understanding of the cultivation and production processes involved in agricultural products. Moreover, promoting the nutritional and health benefits of agricultural products will further enhance consumer awareness. Through such efforts, agricultural products with distinctive local characteristics can establish strong brand identities. By increasing consumers' knowledge and familiarity with agricultural products, their willingness to purchase will be

positively influenced. By strengthening policy support, encouraging research and development, and promoting consumer education, the government can facilitate the creation and growth of regional agricultural product brands. This will not only benefit the agricultural industry but also enhance consumer confidence and encourage a greater appreciation for locally produced agricultural products.

Acknowledgement

This study is a part of a larger study carried out by Mo Fan as part of her PhD research at City University of Malaysia, Kuala Lumpur. The author is grateful to the anonymous reviewers who provided useful comments on an earlier draft of the paper.

Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author Profile



Fan Mo, A PhD student in College of Science and Technology, City University, Kuala Lumpur, Malaysia. Her research interests include marketing, brand management and consumer behaviour.

Address: City University of Malaysia, No. 8, Jalan 51a/223, Petaling Jaya 46100, Selangor, Malaysia

E-mail: sylviaapple1986@hotmail.com

ORCID: 0000000289466493



WeiMing Chee, An associate professor in the City Graduate School of City University Malaysia. Dr Chee's research interests include strategic management, quantitative research methods and real estate management.

Address: City University of Malaysia, No. 8, Jalan 51a/223, Petaling Jaya 46100, Selangor, Malaysia

E-mail: chewei@city.edu.my

References

- Ahmed, Z. U., Johnson, J. P., Yang, X., & Jin, Z. (2013). Influence of country of origin image on consumer behavior: A meta-analysis. *Journal of International Consumer Marketing*, 25(3), 181-202.
- Han, C. M. (1988). The role of consumer patriotism in the choice of domestic versus foreign products. *Journal of Advertising Research*, 28(3), 25-32.
- He, L., Wang, J., & Han, X. (2018). Effects of origin image on perceived value and brand trust of agricultural products in e-commerce environment. *Journal of Food Products Marketing*, 24(7), 750-765.

Liu, J., Wang, L., Li, Y., & Liu, M. (2022). How do local government information sources affect the purchase willingness of low-carbon agricultural products? The example of regional brand agricultural products. *Frontiers in Public Health, 10*, 832689.

<https://doi.org/10.3389/fpubh.2022.832689>

Liu, Y., & Wang, X. (2022). Promoting Competitiveness of Green Brand of Agricultural Products Based on Agricultural Industry Cluster. *Wireless Communications and Mobile Computing, 2022*, 1-10. <https://doi.org/10.1155/2022/2194747>

Liu, Y., Meilian, L., & Xu, L. (2019). Effects of perceived quality, brand, and word-of-mouth on purchase intention: A study of Chinese smartphone consumers. *Journal of International Consumer Marketing, 31*(2), 96-110.

Liu, Y., Wang, H., & He, X. (2022). The impact of brand image and country image on Chinese consumers' purchase intention of luxury fashion products. *Journal of Retailing and Consumer Services, 68*, 103004.

Ministry of Agriculture and Rural Affairs of China (2022). Retrieved from <http://www.moa.gov.cn/>

Munjal, S., (2014). Country-of-origin effects on Consumer Behavior. *Online International, Reviewed and Indexed Monthly Journal, 3*(3), 1-9.

Nancy, M. L., Richard, G. M., & Anil, M. (2012). A meta-analysis of the relationship between brand attachment and brand attitude strength. *Journal of Consumer Psychology, 22*(2), 191-209.

Osawa, S., & Kikutani, T. (Eds.). (2016). *Geographical Indications and International Agricultural Trade: The Challenge for Asia*. Springer.

Shen, Y., Wang, C., & Li, X. (2020). Does regional brand certification matter? Evidence from Chinese consumers' purchasing intentions for agricultural products. *Sustainability, 12*(20), 8669. <https://doi.org/10.3390/su12208669>

Thgersen, J., Zhou, Y., & Dahlgaard, J. J. (2018). Do consumers' preferences for imported food products differ from domestic products? A study of Chinese consumers' perceptions. *Journal of Food Products Marketing, 24*(6), 653-669.

Tu, H., & Zhu, Q. (2020). Effects of external cues of agricultural products on consumers' willingness to purchase: Based on cognitive-emotional system theory. *Journal of Cleaner Production, 257*, 120553.

Wilson, J. E. (2018). *Terroir: The Role of Geology, Climate, and Culture in the Making of French Wines*. University of California Press.

World Trade Organization. *Geographical Indications*. Retrieved from https://www.wto.org/english/tratop_e/trips_e/gi_background_e.htm

Yan, S., & Choi, J. (2020). A meta-analysis of country-of-origin image effects on consumer behavior. *Journal of Global Marketing, 33*(3), 134-152.

<https://doi.org/10.1080/08911762.2020.1749847>

Yang, D., Chen, X., & Zhang, Z. (2021). The impact of green certification on consumers' purchase intention towards green food products: Evidence from China. *Journal of Cleaner Production*, 290, 125566.

Zhang, J., Wang, J., Lu, X., & Zhang, Y. (2020). Regional brand image and tourists' behavioral intentions: A study of Shaanxi, China. *Journal of Destination Marketing and Management*, 17, 100409.

Zheng, X., Huang, Q., & Zheng, S. (2022). *The Identification and Applicability of Regional Brand-Driving Modes for Agricultural Products*. Agriculture.

Zhu, Z., & Li, Z. (2017). The effect of country-of-origin image on Chinese consumers' food preferences: An empirical study. *Journal of Foodservice Business Research*, 20(2), 143-160.

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).