Factors Influencing Chinese Rice Brand Equity: Yunnan Consumers' Perceived Value

Chanchai Bunchapattanasakda

Doctoral Programs, Stamford International University, Thailand
chanchai.bunchapatanasakda@stamford.edu

Yue Huang

Stamford International University, Thailand
7079728@qq.com

Martin Feichtenschlager

Stamford International University, Thailand
martin.feichtenschlager@stamford.edu

Piotr Curtis

Stamford International University, Thailand
piotr.curtis@stamford.edu

Yun Wu

Stamford International University, Thailand
yun.wu@stamford.edu

Abstract

The objective of this quantitative research is to study the major factors influencing Chinese rice brand equity from the perspective of Yunnan (China) consumers. A constructed survey questionnaires was used through convenience sampling to collect data from 420 respondents who had bought branded rice within the past one year in Yunnan province. Stepwise and Hierarchical Regression were employed to identify the factors affecting rice brand equity with perceived value as a mediator variable. The results indicate that retailer's image, distribution density, product, and promotion factors have a significant positive impact on rice brand equity. When considering each factor, retailer's image has the greatest influence on rice brand awareness, distribution density influences the rice brand image, and product has the greatest impact on rice brand perceived quality and loyalty. The results confirm that perceived value has a partial mediating effect between the external influencing factors and the four dimensions of rice brand equity explored in this study.

Keywords: Brand Equity, Chinese Rice, Perceived Value, Rice Brand, Yunnan Province

1. Introduction

Rice is a posteriori commodity with hidden characteristics (Dong, Mu, & Hou, 2013). In the case of asymmetric market information, brand can convey product information for consumers to judge product quality through their purchasing behavior. Lately, rice products have evolved from a simple product and a price competition into a fierce competition between brands. So much so that rice brand development has now become one of the essential factors affecting the competitiveness of enterprises involved in the rice markets. China's rice enterprises have

become well aware of the importance of brand building. With rice enterprises typically small and medium size companies and with more than 10,000 brands in 34 provinces and cities in China, the market is highly fragmented. This includes thousands in Heilongjiang province. For instance, altogether Wuchang rice enterprises have more than 500 registered trademarks (Zhen, 2018). However, less than 30 percent of all the rice brands in China enjoy a high popularity and good reputation in the market. Due to a lack of publicity and promotion, a sizeable number of Chinese rice brands have not been able to achieve a high degree of recognition in the market. This is largely due to the fact that most Chinese rice enterprises do not focus on highlighting product differences. In light of this situation, enhancing brand equity appears as key for rice enterprises that are keen on brand development and want to enhance their market competitiveness and win the recognition of customers (Shang & Li, 2018).

It is well established that consumers' cognition and attitude towards rice will influence the choice of brand and the generation and growth of brand equity. Implementing marketing activities will enable consumers to have a differentiated response to the brand in terms of cognition, emotion, behavioral intention, etc, all key sources of rice brand equity (Yu & Zhao, 2003). There are, however, few studies on rice brand equity and on the functional relationship between influencing factors and rice brand equity in Yunnan province. This study aims to fill the gap and purports to study the main factors influencing rice brand equity and analyze the relationship between influencing factors and rice brand equity. Doing so will contribute to helping Chinese rice enterprises to effectively enhance rice brand equity, increase their brand value and strengthen their market competitive abilities.

2. Literature Review
- Rice Brand Equity

Brand equity may be defined as value added brought by the brand to products and services (Fan, 2000). More and more scholars tend to analyze brand equity from the perspective of consumers, believing that brand equity is a differentiated response of consumers to marketing activities carried out by enterprises while consumers' recognition of brands is an important to form brand equity (Yu & Zhao, 2003; Dong & Su, 2012; Zhang & Liu, 2015; Nie & Gao, 2016). From a consumer perspective, brand equity refers to the attitude and views of consumers towards a brand, which needs to be measured through multiple dimensions. According to Aaker (1991), Keller (1993), and Yoo, Donthu, and Lee (2000), the measurement dimensions of rice brand equity include (i) brand awareness, (ii) perceived quality, (iii) enterprise's brand image, and (iv) brand loyalty.

(i) Brand Awareness: Miller and Berry (1998) stated that brand awareness is an ability to know a brand name. It is a prerequisite for consumers to have purchase ideas and behaviors. In the rice market, brand becomes an important signal to convey the information of rice products and enterprises to consumers. When they are not familiar with the brand they look at, most people will think that a 'well-known' brand signals better products in the market and is therefore more likely to gain consumers' favor (Hamza, 2011). This is why brand awareness is one of the most important dimensions for measuring rice brand equity.

(ii) Perceived Quality: According to Chakraborty (2019), perceived quality and an enterprise positioning differentiation are strong reasons for consumers to purchase the brand. As asserted by the theory of Cognitive Psychology, when consumers buy products, they will perceive and evaluate brands according to their associative memory network to make their own purchasing decisions (Chakraborty, 2019). Only when consumers have a good perception of the quality will they repeat the purchase and make positive comments. Perceived quality is therefore also essential to measure rice brand equity.

(iii) Brand Image: Biel (1992) determined that brand image is a multi-dimensional concept that include the image of the enterprise, users, and its products and/or services. Due to the particularity of rice, consumers will develop a corresponding association based on the industry status of rice enterprises, business scale, consumer groups, products or services and other aspects of the brand. They believe that only the good rice enterprises can produce and sell good products (Zhang, 2015).

(iv) Brand Loyalty: Attitudinal brand loyalty refers to consumers' commitment to the same brand. It includes purchase intention and recommendation intention (Baldinger, 1996). Behavioral loyalty, on the other hand, refers to consumers' repeated consumption and purchase of the same brand. Rice enterprises that can effectively increase the value provided by the brand through differentiated marketing, will strengthen consumers' willingness, repurchase behavior, and encourage them to become loyal customers to the brand (Kocoglu, Tengilimoglu, Ekiyor, & Guze, 2015). This is precisely why brand loyalty is the main dimension for measuring rice brand equity.

- Relationship between Retailer Image and Rice Brand Equity

Retailers, as a bridge, link consumers and products and are the closest contact with consumers. Consumers' perception of products is an important factor affecting consumers' decision on brands (Wang & Zhang, 2015). Dodds, Kent, and Dhruv (1991) confirmed that the image of sellers has a positive impact on consumers' purchase intention and perceived quality. Moreover, Yoo et al. (2000) and Pettijohn, Mellott and Pettijohn (2010) found that a retailer's image affects brand awareness and brand image. When consumers buy branded rice, they will also weigh the selling brands based on the shopping environment, service attitude, and distribution service of the retail stores. Accordingly, the following research hypotheses is proposed:

> **H1**: *Retailer image has an influence on (a) rice brand awareness, (b) perceived quality of rice brand, (c) brand image of rice enterprises, and (d) rice brand loyalty.*

- Relationship between Distribution Density and Rice Brand Equity

Distribution density, as a product sales strategy implemented by enterprises, aims to enable consumers to buy the products and enjoy the corresponding services in different places at anytime and anywhere (Yoo et al., 2000). According to Yoo et al. (2000), this gives consumers more time and opportunities to perceive the brand. Li (2010) confirmed that distribution density has a significant positive impact on brand awareness, perceived brand quality, loyalty, and satisfaction. Based on these findings, the following research hypotheses can be developed:

> **H2**: *Distribution density has an influence on (a) rice brand awareness, (b) perceived quality of rice brand, (c) brand image of rice enterprises, and (d) rice brand loyalty.*

- Relationships between Product Factors and Rice Brand Equity

According to Szybillo and Jacoby (1974), when consumers buy an unfamiliar brand, they will identify and evaluate the brand according to the inherent attributes of the product. When consumers buy branded rice, they will make their own purchase choice based on the inherent internal attributes of rice, such as, for example, the quality of the rice, and external attributes such as the reputation of the rice, so as to make corresponding judgments on the brand (Lu, Li, & Huang, 2015). Accordingly, the following research hypotheses has been developed:

H3: *Product factor has an influence on (a) rice brand awareness, (b) perceived quality of rice brand, (c) brand image of rice enterprises, and (d) rice brand loyalty.*

- Relationships between Promotion Factors and Rice Brand Equity

Promotions increase consumers' understanding and cognition of the brand (Karbasi & Rad, 2014). Different forms of promotional activities have different effects on brand equity. Hu and Zhang (2014) found that in different product life cycles, price discount has both positive and negative effects on brand equity. According to Zhao and Song (2016), price reduction can increase customer perceived value and brand loyalty more than gifts. In practice, promotional activities carried out by rice enterprises include price promotion (discounts) and non-price promotion (coupons). Previous studies indicate that promotions are favored by consumers and would therefore increase their purchase to a certain extent and affect their evaluation of the brand (Palazon & Ballester, 2005; Villarejo-Ramos & Sanchez-Franco, 2005; Tibebe & Singh, (2016). The following research hypotheses can therefore be proposed:

H4: *Promotion factor has an influence on (a) rice brand awareness, (b) perceived quality of rice brand, (c) brand image of rice enterprises, and (d) on rice brand loyalty.*

- Mediating Effect of Perceived Value

As a trade-off between perceived gain and perceived loss perceived, value occupies an important position in the whole decision-making and consumption process (Zeithaml, 1988). Zheng, Hu, and Feng (2014) confirmed the mediating role of perceived value between marketing strategy and brand loyalty. Wang, Wang, and Wang (2019) found that perceived value plays a mediating role in the relationship between word of mouth of unfamiliar products and purchase intention. When consumers buy a brand of rice, under the stimulus of external factors, the cost of buying rice will be weighed against the utility of rice, which will further affect consumers' buying attitude and behavior towards the brand of rice (Wang et al., 2019). Since, due to different economic and cultural backgrounds, needs, and expectations, each consumer is different, when looking at the same brand of rice, consumers' perceived value will be quite different (Yan, 2019). Accordingly, the following research hypothesis have been developed:

H5: *Perceived value has a mediating effect between retailer image and each dimension of rice brand equity.*

H6: *Perceived value has a mediating effect between distribution density and each dimension of rice brand equity.*

H7: *Perceived value has a mediating effect between product factor and each dimension of rice brand equity.*

H8: *Perceived value has a mediating effect between promotion factor and each dimension of rice brand equity.*

In summary, based on the above discussion, retailer image, distribution density, product factor and promotion factor will be used as independent variables and rice brand equity as dependent variable, which includes rice brand awareness, rice brand perceived quality, rice enterprise brand image and rice brand loyalty. Based on the research hypothesis developed for this research and taking consumer perceived value as a mediating variable, the following conceptual framework has been articulated.
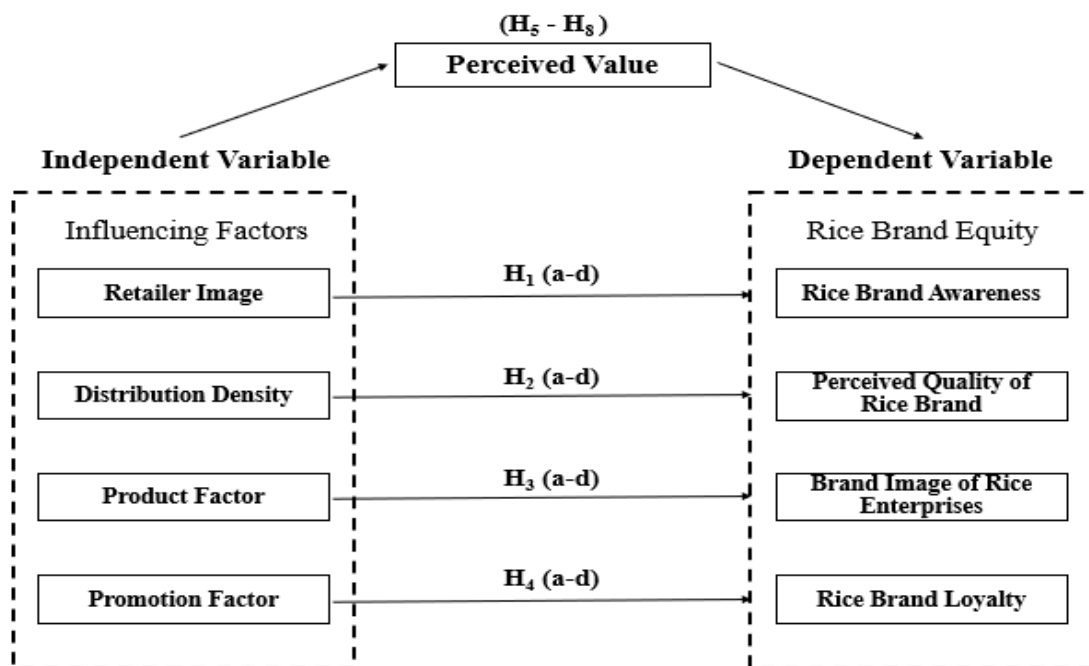

Figure 1: Conceptual Framework (Developed by Authors for this Study)

3. Methodology

This research used a constructed survey questionnaire based upon a comprehensive review of related literature to collect data from the samples. The measurement items and sources of the questionnaire are shown in Table 1. The questionnaire consists of two sections. The first section covers the demographics of the respondents (gender, age, income, shopping experience, and frequency of shopping activities). The second one includes the measurements used to measure the influencing factors and the rice brand equity factors identified in the conceptual model. The questionnaire was developed using the multiple item method and each item was measured based on a five-point Likert scale ranging from "1=strongly disagree" to "5=strongly agree". In order to measure the constructs, pretested items were adopted from previous literature. The questionnaire was pre-tested using a convenience sample of 30 customers who had bought brand rice in Yunnan province, China. After the pilot test, a self-administered survey was conducted online in Yunnan. Since this research mainly focuses on consumers who have purchased brand rice within the past year, a screening item was set in the questionnaire to make

sure all respondents had buying experience. Because the size of the target population of this study is difficult to define in actual size, the formula of Cochran (1977) was chosen to calculate the sample size. With an expected 95% confidence level, the actual sample size was 385.

492 questionnaires were returned, 420 of which were deemed usable after removing all the responses with invalid answers. In terms of data analysis. Stepwise and hierarchical regressions were performed to test the direct and indirect hypothesis developed in this study (i.e., the factors affecting rice brand equity and perceived value as a mediator variable). A stepwise regression is a step-by-step iterative construction of a regression model that involves the selection of independent variables to be used in a final model. This includes adding or removing potential explanatory variables in succession and testing for statistical significance after each iteration (Vlachopoulou, Ferryman, Zhou, & Tong, 2013). It was used to test the direct influence factors of rice brand equity. As to a hierarchical regression, it is a special form of a multiple linear regression analysis, in which more variables are added to the model in separate steps. This is often done to statistically "control" certain variables, test whether adding variables significantly improves a model's ability to predict the criterion variable, and/or investigate a moderating effect of a variable (Darlington, 1968). The hierarchical regression was utilized to test the mediating effect of perceived value.

Table 1: Adoption of Questionnaire Measurements

Construct	Scale Items	Source	Cronbach α
Retailer Image	The quality of rice sold in this retail store is reliable	Shan and Fan (2016)	0.850
	The service attitude of the staff in this retail store is good		
	The environment of the retail store is comfortable and the rice well displayed		
	The retail store provides free delivery		
Distribution Density	There are more retail stores selling this brand of rice than other competing brands	Yoo et al. (2000)	0.866
	This brand of rice is sold in more retail stores than its competitors		
	This brand of rice is sold through as many retail stores as possible		
Product Factor	I value the nutritional and health benefits of rice	Yoo et al. (2000)	0.856
	I value the taste and flavor of rice		
	I value the reputation of rice brands		
Promotion Factor	I value the cost of rice	Yoo et al. (2000)	0.837
	I value the promotional price of rice (such as price discount, full reduction activities)		
	I value non-price promotions for rice (such as coupons and gift-giving)		
Perceived Value	The rice price of this brand is reasonable	Zhen (2012)	0.916 0.859
	This brand of rice is economical		
	The price of this brand matches its quality		
	The rice quality of this brand is better than that of similar products at the same price		

	Buying this brand of rice could help me save time and money		
	Compared with competing brands, this brand of rice could help me avoid some unnecessary risks		
Rice Brand Awareness	I could identify this brand among many rice brands	Yoo et al. (2000)	0.874
	I could think of some characteristics of this rice brand quickly		
	I could quickly recall the name, logo or symbol of this rice brand		
Perceived Quality of Rice Brand	This brand of rice is of good quality	Yoo et al. (2000)	0.874
	The quality of this brand is consistently high		
	The quality of this rice brand represents the highest standard in the rice industry		
Brand Image of Rice Enterprises	The company that produces and operates this brand of rice has high technical strength	Gong and Chen (2014)	0.874
	The company that produces and operates this brand of rice has a large scale operation		
	The company that produces and operates this brand of rice has a high status in the industry		
	The company that produces and operates this brand of rice has a good social reputation		
Rice Brand Loyalty	This rice brand is my first choice when buying rice	Yoo et al. (2000)	0.864
	As long as the store has this brand of rice, I will not buy any other similar products		
	I will continue to buy this brand of rice		
	I will recommend this brand of rice to my relatives and friends		

4. Results

- Reliability and Validity Analysis

The coefficient value Alpha of each scale, as Table 1 shows, is 0.850, 0.866, 0.856, 0.837, and 0.916 respectively for retailer image, distribution density, product factor, promotion factor and perceived value. The coefficient Alpha of rice brand awareness, rice brand perceived quality, rice enterprise brand image and rice brand loyalty is 0.859, 0.874, 0.874 and 0.864 respectively and the coefficient of each dimension of the overall scale of influencing factors and rice brand equity was 0.944, which is greater than 0.7, indicating that the scale has high reliability (Zhang, 2011). The factor analysis of influencing factors and components of rice brand equity reveals that the KMO of influencing factors and each dimension of rice brand equity were 0.904 and 0.901, respectively, with a significance of 0.000. The explanatory rates of factor variance extracted with eigenvalues greater than 1 were 73.835% and 75.049%, respectively. They were consistent with the dimension division in the original scale. In addition, the factor loading coefficient after rotation of the influencing factors and rice brand equity in each dimension is greater than 0.7, indicating that the scale has a high validity.

- Descriptive Analysis

The results indicate that the majority of the respondents who bought branded rice were females (55.0%). The average age group is between 36 and 55 and they all are enterprises' employees with bachelor's degrees. Their monthly family income is between 5,001RMB and 8,000RMB

These brand rice consumers are highly educated and have high incomes. 71.2 percent of them made purchase via offline channels, a clear indication that a majority of consumers are willing to buy tangible products with guaranteed quality on offline channels. Wuchang rice series ranked first in terms of preference (37.3%), followed by Golden Arowana (17.2%), Beidahuang (14.0%), and Fook Lam Moon (10.0%), indicating that respondent Yunnan rice consumers prefer to buy rice with high brand awareness.

- *Hypotheses Testing*

Table 2 presents the results from the analysis of variance (ANOVA) of the influence factors on rice brand equity. It shows that the relationships between rice brand awareness, perceived quality of rice brand, brand image of rice enterprises, and rice brand loyalty are at significant level 0.000, indicating that each model has significance.

Table 2: Analysis of Variance (ANOVA) of Direct Influence Factors of Rice Brand Equity

Model	Sum of Squares	df	Mean Square	F	Sig.
Rice Brand Awareness	171.737	4	42.934	86.928	0.000***
Perceived Quality of Rice Brand	177.022	4	44.255	109.598	0.000***
Brand Image of Rice Enterprises	109.252	3	36.417	88.476	0.000***
Rice Brand Loyalty	98.546	3	32.849	65.938	0.000***

*p<0.05, **p<0.01, ***p<0.00

Table 3 shows the stepwise regression analysis of direct influence factors of rice brand equity. The predictor variance inflation factor (VIF) was not more than 5, which indicates that there is no multi-collinearity. At a significance level of 0.000, retailer image (β= 0.254, p< 0.001), distribution density (β = 0.127, p< 0.001), product factor (β = 0.263, p< 0.001), promotion factor (β = 0.189, p< 0.001) significantly influence rice brand awareness. This suggests that retailer image, distribution density, product, and promotion have a positive influence on rice brand awareness. Therefore, hypothesis H1a, H2a, H3a, and H4a are supported. With regard to the perceived quality of rice brand, at a significance level of 0.000, retailer image (β= 0.198, p < 0.001), distribution density (β = 0.199, p < 0.001), product factor (β = 0.344, p< 0.001), and promotion factor (β = 0.148, p < 0.001) significantly influence rice brand awareness. This is a clear indication that retailer image, distribution density, product, and promotion all have a positive influence on the perceived quality of rice brands. Thus, H1b, H2b, H3b and H4b are supported.

As to the brand image of rice enterprises, it was found that retailer image (β= 0.254, p < 0.001), distribution density (β = 0.127, p < 0.001), and product factor (β = 0.263, p< 0.001) have a positive influence on the brand image of rice enterprises, which means that H1c, H2c, H3c are fully supported. However, the promotion factor has no effect on the brand image of rice enterprises. Therefore, H4c is rejected. With regard to rice brand loyalty, the results indicate that retailer image (β= 0.254, p < 0.001), product factor (β = 0.263, p< 0.001), and promotion factor (β = 0.148, p < 0.001) have a significant positive effect on rice brand loyalty, which means that H1d, H3d and H4d are supported. However, when H2d is examined, it is found that distribution density had no impact on rice brand loyalty. Thus, H2d is rejected.

Table 3: Stepwise Regression Analysis of Direct Influence Factors of Rice Brand Equity

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.	VIF
		B	Std. Error	Beta			
Rice Brand Awareness	(Constant)	0.498	0.171		2.915	0.004	1.602
	Retailer Image	0.265	0.037	0.254	7.145	0.000***	1.407
	Product Factor	0.264	0.035	0.263	7.617	0.000***	1.268
	Promotion Factor	0.183	0.034	0.189	5.455	0.141	1.277
	Distribution Density	0.127	0.036	0.127	3.569	0.000***	1.367
Perceived Quality of Rice Brand	(Constant)	0.704	0.154		4.557	0.000	1.302
	Product Factor	0.327	0.031	0.344	10.416	0.000***	1.263
	Distribution Density	0.187	0.032	0.199	5.837	0.000***	1.274
	Retailer Image	0.195	0.033	0.198	5.835	0.000***	1.359
	Promotion Factor	0.136	0.030	0.148	4.467	0.000***	1.097
Brand Image of Rice Enterprises	(Constant)	1.716	0.150		11.432	0.000	1.258
	Distribution Density	0.398	0.032	0.455	12.572	0.000***	1.326
	Retailer Image	0.099	0.033	0.108	2.949	0.003**	1.407
	Product Factor	0.068	0.031	0.077	2.179	0.030*	1.147
Rice Brand Loyalty	(Constant)	1.641	0.165		9.927	0.000	1.302
	Product Factor	0.371	0.035	0.397	10.730	0.000***	1.111
	Retailer Image	0.109	0.036	0.113	3.059	0.002**	1.073
	Promotion Factor	0.073	0.033	0.081	2.209	0.028*	1.251

$*p<0.05, **p<0.01, ***p<0.001$

- Testing the Mediating Effect of Perceived Value

As Table 4 shows, when retailer image, distribution density, product factor, and promotion factor are added into the model, the F value is 106.177 and significant. The regression coefficients of the independent variables are 0.279, 0.116, 0.238, and 0.163 respectively. All are significant, indicating that the influencing factors have a significant impact on perceived value. Therefore, a mediating effect test of perceived value can be conducted.

Table 4: Regression Analysis Results of Direct Influence Factors and Perceived Value

Variable	Model 1		
Independent Variable	Beta	t	p
Retailer Image	0.279	8.760	0.000***
Distribution Density	0.116	3.799	0.000***
Product	0.238	7.960	0.000***
Promotion	0.163	5.638	0.000***
R^2	0.392		
Adjusted R^2	0.388		
ΔR^2	0.392		
F	106.177		
Dependent Variable: Perceived Value			

*p<0.05, **p<0.01, ***p<0.001

- *Mediating Effect of Perceived Value on Influencing Factors and Rice Brand Awareness*
As shown in Table 5, in Model 1, F value is 37.963 and significant, indicating that the model is statistically significant. Adjusted R^2 is 0.100, indicating that the control variable can account for the 10.0 percent variation of rice brand awareness except for the effect of data volume.

In Model 2, ΔR^2 is 0.261, indicating that after excluding the control variables, retailer image, distribution density, product factor, and promotion factor have a total explanatory variation of 26.1 percent and thus reach significance (F =67.527, p < 0.01). Their regression coefficients are 0.245, 0.112, 0.244, and 0.171 respectively, which shows that their influence is significant, a clear indication of the positive correlation with the dependent variable.

In Model 3, once the mediating variable perceived value is added, the corresponding F value of the model is significant, which makes the model meaningful. ΔR^2 is 0.076 (p < 0.01), indicating a 7.6 percent increase in the overall explanatory variation as compared to Model 2. When the perceptive value is added, the coefficients of the four independent variables decrease from 0.245, 0.112, 0.244, and 0.171 to 0.138, 0.070, 0.154, and 0.109, respectively. The influence coefficient of perceptive value on the dependent variable is 0.399, and the coefficients corresponding to the above variables are all significant. This shows that after the addition of perceptive value, the independent variable's influence on the dependent variable is weakened. In other words, perceptive value plays a partial mediating role between retailer image, distribution density, product factor, promotion factor, and brand awareness of rice. Therefore, H5 is accepted.

Table 5: Hierarchical Regression Analysis Results of Perceived Value and Rice Brand Awareness

Variable	Model 1			Model 2			Model 3		
Control	Beta	t	p	Beta	t	p	Beta	t	p
age	.222	8.258	.000***	.095	3.957	.000***	.069	3.055	.002**
education	.089	2.600	.010*	.057	1.975	.049*	.053	1.963	.050*

Independent									
Retailer Image				.245	6.640	.000***	.138	3.788	.000***
Distribution Density				.112	3.167	.002**	.070	2.098	.036*
Product				.244	7.074	.000***	.154	4.560	.000***
Promotion				.171	5.145	.000***	.109	3.413	.001**
Mediator									
Perceived Value							.399	9.450	.000***
R^2	.103			.364			.441		
Adjusted R^2	.100			.359			.435		
ΔR^2	.103			.261			.076		
F	37.963			62.767			73.791		
ΔF	37.963			67.527			89.312		
Dependent Variable: Rice Brand Awareness									

*p<0.05, **p<0.01, ***p<0.001

- Mediating Effect of Perceived Value on Influencing Factors and Perceived Quality of Rice Brand

Table 6 shows that in Model 1, F value is 158.992 and significant, indicating that the model is statistically significant. Adjusted R^2 is 0.323, indicating that the control variable accounts for the 32.3 percent variation of rice brand awareness, except for the effect of data volume.

In Model 2, ΔR^2 is 0.222, indicating that after excluding the control variables, retailer image, distribution density, product factor, and promotion factor have a total explanatory variation of 22.2 percent and therefore reach significance (F =80.723, p < 0.01). Their regression coefficients are 0.145, 0.136, 0.277, and 0.105, respectively, which shows a significant influence on them and a positive correlation with the dependent variable.

In Model 3, when the mediating variable perceived value is added, the corresponding F value of the model is significant, which makes the model meaningful. ΔR^2 is 0.040 (p < 0.01), indicating a 4.0 percent increase in the overall explanatory variation as compared to the Model 2. When the perceptive value is added, the coefficients of the four independent variables decrease from 0.145, 0.136, 0.277, and 0.105 to 0.072, 0.107, 0.215, and 0.062, respectively. The influence coefficient of perceptive value on the dependent variable is 0.274. The coefficients corresponding to the above variables are all significant. This indicates that after the addition of perceptive value, the independent variable's influence on the dependent variable is weakened. In other words, the perceptive value plays a partial mediating role between retailer image, distribution density, product factor, promotion factor, and perceived quality of rice brand. Therefore, H6 is accepted.

Table 6: Hierarchical Regression Analysis Results of Perceived Value and Perceived Quality of Rice Brand

Variable	Model 1			Model 2			Model 3		
Control	Beta	t	p	Beta	t	p	Beta	t	p
age	.389	17.707	.000***	.279	14.610	.000***	.262	14.230	.000***
education	.048	1.726	.085	.023	0.983	.326	.020	0.910	.363
Independent									
Retailer Image				.145	4.947	.000***	.072	2.437	.015*
Distribution Density				.136	4.829	.000***	.107	3.956	.000***
Product				.277	10.046	.000***	.215	7.830	.000***
Promotion				.105	3.966	.000***	.062	2.411	.016*
Mediator							.		
Perceived Value							.274	8.006	.000***
R^2	.325			.547			.588		
Adjusted R^2	.323			.543			.583		
ΔR^2	.325			.222			.040		
F	158.992			132.380			133.521		
ΔF	158.992			80.723			64.092		
Dependent Variable: Perceived Quality of Rice Brand									

*p<0.05, **p<0.01, ***p<0.001

- Mediating Effect of Perceived Value on Influencing Factors and Brand Image of Rice Enterprises

As can be seen in Table 7, in Model 1, F value is 28.246 and significant, indicating that the model is statistically significant. Adjusted R^2 is 0.076, indicating that the control variable explains the 7.6 percent variation of rice brand awareness except with regard to the effect of data volume.

In Model 2, ΔR^2 is 0.228, indicating that after excluding the control variables, retailer image, distribution density, product factor, and promotion factor have a total explanatory variation of 22.8 percent and therefore reach significance (F =54.023, p < 0.01). Their regression coefficients are 0.074, 0.370, 0.041, and 0.045, respectively, which show that only retailer image and distribution density have a significant influence on rice brand image, indicating that retailer image and distribution density are positively correlated with the dependent variable.

In Model 3, when the mediating variable of perceived value is added, the corresponding F value of the model is significant, which makes the model meaningful. ΔR^2 is 0.111 (p < 0.01), indicating a 4.0 percent increase in the overall explanatory variation as compared to Model 2. When perceptive value is added, the coefficients of the four independent variables decrease from 0.074, 0.370, 0.041, and 0.045 to -0.039, 0.325, -0.054, and -0.020 respectively. The influence coefficient of perceptive value on the dependent variable is 0.421. Only the

coefficient corresponding to distribution density and perceived value is significant. It indicates that after the addition of perceptive value, the influence of distribution density on the dependent variable is weakened. In other words, perceptive value plays a partial mediating role between the distribution density and brand image of rice enterprises. Therefore, H7 is accepted.

Table 7: Hierarchical Regression Analysis Results of Perceived Value and Brand Image of Rice Enterprises

Variable	Model 1			Model 2			Model 3		
Control	Beta	t	p	Beta	t	p	Beta	t	p
age	.178	7.464	.000***	.085	3.890	.000***	.058	2.875	.004**
education	.022	0.719	.472	.017	0.659	.510	.013	0.552	.581
Independent									
Retailer Image				.074	2.195	.029*	-.039	-1.194	.233
Distribution Density				.370	11.430	.000***	.325	10.879	.000***
Product				.041	1.306	.192	-.054	-1.787	.074
Promotion				.045	1.495	.135	.020	-0.709	.479
Mediator							.		
Perceived Value							.421	11.169	.000***
R^2	.079			.307			.418		
Adjusted R^2	.076			.300			.411		
ΔR^2	.079			.228			.111		
F	28.246			48.452			67.173		
ΔF	28.246			54.023			124.744		
Dependent Variable: Brand Image of Rice Enterprises									

*$p<0.05$, **$p<0.01$, ***$p<0.001$

- Mediating Effect of Perceived Value on Influencing Factors and Rice Brand Loyalty
A shown in Table 8, in Model 1, F value is 39.400 and significant, indicating that the model is statistically significant. Adjusted R^2 is 0.104, indicating that the control variable can explain the 10.4 percent variation of rice brand awareness except the effect of data volume.

In Model 2, ΔR^2 is 0.165, indicating that after excluding the control variables, retailer image, distribution density, product factor, and promotion factor have a total explanatory variation of 16.5 percent and reach significance (F =37.078, p < 0.01). Their regression coefficients are 0.071, 0.024, 0.339, 0.048, respectively, which shows that only product factor has a significant influence on brand loyalty, and also indicates that product factor is positively correlated with the dependent variables.

In Model 3, when the mediating variable of perceived value is added, the corresponding F value of the model is significant, which makes the model meaningful. ΔR^2 is 0.104 (p < 0.01), indicating a 10.4 percent increase in the overall explanatory variation as compared to Model 2. When the perceptive value is added, the coefficients of the four independent variables decrease from 0.071, 0.024, 0.339, and 0.048 to -0.045, -0.021, 0.241, and -0.020, respectively. The

influence coefficient of perceptive value on the dependent variable is 0.432. Moreover, only the coefficient corresponding to product factor and perceived value is significant. This indicates that after the addition of perceptive value, the degree of influence of product factor on the dependent variable is weakened. In other words, perceptive value plays a partial mediating role between product factors and rice brand loyalty. Therefore, H8 is accepted.

Table 8: Hierarchical Regression Analysis Results of Perceived Value and Rice Brand Loyalty

Variable	Model 1			Model 2			Model 3		
Control	Beta	t	p	Beta	t	p	Beta	t	p
age	.202	8.133	.000***	.123	5.157	.000***	.095	4.277	.000***
education	.107	3.381	.001**	.083	2.878	.004**	.078	2.950	.003**
Independent									
Retailer Image				.071	1.934	.054	-.045	-1.260	.208
Distribution Density				.024*	0.685	.493	-.021	-0.644	.520
Product				.339	9.871	.000***	.241	7.270	.000***
Promotion				.048*	1.449	.148	-.020	-0.625	.532
Mediator							.		
Perceived Value							.432	10.447	.000***
R²		.107			.271			.375	
Adjusted R²		.104			.264			.368	
ΔR²		.107			.165			.104	
F		39.400			40.719			56.240	
ΔF		39.400			37.078			109.149	
Dependent Variable: Rice Brand Loyalty									

*$p<0.05$, **$p<0.01$, ***$p<0.001$

5. Discussion and Conclusion

Through empirical analysis, the research hypothesis and research model of influencing factors of rice brand equity were tested and verified. As indicated by the results of the stepwise regression analysis, retailer image, distribution density, product factors and promotion factors have different direct influences on each dimension of rice brand equity. First, retailer image has a significant positive influence on brand awareness, perceived quality, brand image of rice enterprise and rice brand loyalty. That is, the better the retailer image is, the higher the four-dimensional evaluation of rice brand equity is. This shows that retailers, as sales channels of rice and as the closest contact with consumers are critical for building brand equity. Rice enterprises' close cooperation with retailer is needed to keep building a good image, including good reputation, good service attitude, etc. This will help gain consumers' recognition and the rice brand and improve rice brand equity.

Second, distribution density was found to have a significant positive effect on brand awareness, perceived quality of rice brand, and brand image of rice enterprises. This indicates that the stronger the distribution density of rice brand, the higher brand awareness, perceived quality of rice brand and brand image of rice enterprises. Clearly, distribution density, as a sales strategy implemented by enterprises, is an important way and means to increase consumer choice and increase the visibility of the brand as well. It is therefore crucial for enterprises producing rice and operating brands to strengthen the distribution density of products. Increasing density make it possible for consumers to choose and buy the brand at any time and almost any place and therefore contributes to enhancing the popularity and perception of rice brands, promoting the purchase of the brand, and strengthening brand equity.

Third, product factor also has significant positive influence on rice brand awareness, rice brand perceived quality, brand image of rice enterprises, and rice brand loyalty. That is, the better the products sold by enterprises producing and operating rice brands, the easier it is to improve rice brand awareness and corporate brand image, enhance perceived quality and brand loyalty. Only when consumers have a good understanding of the rice product and its related factors, will they form positive judgments on and evaluations of the brand, thus leading to the improvement of rice brand equity.

Fourth, promotion factor has a significant positive influence on brand awareness, perceived quality, and brand loyalty of rice as well. Through the formulation of reasonable sales prices and a specific price promotion strategy designed to encourage consumers to purchase high quality products at a good price, which is conducive to increasing consumers' perception of rice brand quality, rice enterprises can stimulate brand awareness and loyalty and therefore promote rice brand equity. In addition, as the results of the hierarchical regression analysis indicate, perceived value has a partial mediating effect on retailer image, distribution density, product factors, promotion factors and rice brand equity. First, retailer image, distribution density, product, and promotion could further affect the brand awareness and perceived quality of rice by influencing its perceived value. This suggests that, in the process of influencing perceived value, rice enterprises can promote consumers' cognition of the brand through marketing activities related to product, price, channel, promotion and various other aspects.

As a result, after consumers use their inner judgment and weigh products, the popularity and perceived quality of rice brand will grow. This is all the more likely as distribution density has been found to further positively affect the brand image of rice enterprises. Bringing rice closer to customers and making it more available, distribution density can also affect the perceived value of rice. As part of their efforts to influence customer perceived value, the owners of rice brands can expand customer group areas of rice and by saving consumers' time and energy getting rice products, contribute to creating and building up the good impression of rice enterprises. Finally, product factor also further influences the brand loyalty of rice by affecting the perceived value. This is especially true of quality. Thus, in the process of influencing perceived value, rice enterprises must focus on product quality and ensure that consumers end up buying healthy rice with a high level of nutrition and fragrance. Undoubtedly, this will help increase consumers' satisfaction and thus enhance their loyalty to rice brands.

- Implications

The results from this study carry several theoretical and practical implications. In terms of theoretical contribution, this research is conductive to enriching the theoretical system of rice brand equity. It also offers valuable practical insights for rice brand managers and marketers. First, the results reveal that retailer image, distribution density, product, and promotion have a significant positive influence on rice brand equity at different degrees. The results also show a partial mediating effect between the four influencing factors and rice brand equity. Thus, to achieve the effective enhancement of brand equity, Chinese rice enterprises need to consider consumers' preferred marketing activities and consumer's inner reactions to them. To develop marketing strategies in line with consumers' inner cognition, they need to truly focus on consumers' needs and preferences and identify their characteristic behavior when buying branded rice. This requires them to target their consumer groups accurately, provide products that meet their expectations, and introduce services that are likely to increase brand satisfaction and loyalty, such as distribution density.

Furthermore, rice enterprises should strengthen their communication with their target consumers through regular visits and market surveys as a thorough understanding of their preferences is critical to come up with products and services that not only differentiate them from their competitors but also satisfy consumers. Finally, rice enterprises should increase publicity and promotional activities that are likely to strengthen their brands. This involves increasing sales personnel and stepping up price and non-price promotions such as discounts, coupons, and complimentary add-ons, charity, and other social public welfare activities.

- Limitations and Future Studies

Inevitably, there are some limitations in this study. First, influencing factors could be increased and changed. The influencing factors of rice brand equity selected in this research mainly include external factors such as retailer image, distribution density, product factor, promotion factor and perceived value. In the future, more factors, such as tangible display, customer participation, and service attitude, should be included to influence rice brand equity. In addition, moderator factors such as source of origin could also be considered as moderator variables of rice brand equity. Finally, the rice brand equity studied in this paper has a macroscopic scope that does not specify any specific brand or enterprise. Future studies could focus on a comparison of local enterprises or brands with international ones.

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