Journal of Operational and Strategic Analytics
https://www.acadlore.com/journals/JOSA

Evaluation of Customer Value-Based Pricing Strategies in Hainan's Travel Agencies under a Free Trade Port Framework

Shaoqing Tian, Chaohong Liu, Fan Jiang*

College of Applied Science and Technology, Hainan University, 570228 Haikou, China

* Correspondence: Fan Jiang (994236@hainanu.edu.cn)

Received: 09-25-2023 **Revised:** 11-03-2023 **Accepted:** 12-12-2023

Citation: S. Q. Tian, C. H. Liu, and F. Jiang, "Evaluation of customer value-based pricing strategies in hainan's travel agencies under a free trade port framework," *J. Oper. Strateg Anal.*, vol. 1, no. 4, pp. 198–213, 2023. https://doi.org/10.56578/josa010405.

Abstract: In the context of the free trade port initiative, an in-depth investigation into the pricing strategies of Hainan's travel agencies was conducted, focusing on the pivotal role of customer value. This study employed empirical analytical methods, including questionnaire surveys and data analysis, to rigorously test hypotheses related to customer value-oriented pricing strategies. It was discovered that customers exhibit a predominant preference for pricing strategies anchored in their value perceptions, notwithstanding the variations in their assessments of diverse tourism products. Strategies grounded in customer value were found to be more effective in fulfilling customer requirements and augmenting satisfaction levels. The research accentuates the crucial importance of aligning pricing strategies with customer value in the context of tourism product pricing. This approach holds significant theoretical relevance and practical utility for the evolution of Hainan's tourism industry. The findings offer fresh perspectives and strategic directions for the tourism sector in Hainan, contributing to its sustainable growth and the enhancement of its competitive stature.

Keywords: Customer value; Pricing strategy; Empirical analysis; Free trade port; Hainan tourism agency

1 Introduction

In the milieu of free trade port development, Hainan Island, distinguished as a premier tourist hub, has witnessed a surge in tourist influx. Nestled at China's southernmost point, the province of Hainan is renowned for its abundant tourism resources and enjoys global acclaim. Benefiting from multiple advantageous factors, the province inherently boasts potential for tourism industry expansion. Data from the Hainan Yearbook (2021) revealed that the tertiary sector's output value in the province amounted to 398.196 billion yuan. The tourism sector, emerging as an economic cornerstone in Hainan, significantly contributes to the province's sustainable economic advancement. In line with the "General Plan for Tourism Development in Hainan Province 2017-2030," national objectives include transforming Hainan into an international destination par excellence by 2025, targeting 110 million global tourists and an economic yield of 200 billion yuan. Consequently, the development of customer value-based pricing strategies by Hainan's travel agencies is essential for augmenting both domestic and international tourist attraction, facilitating Hainan's evolution into a premier international tourist locale.

The genesis of customer value has perennially been a pivotal marketing concept [1], with the essence of marketing encapsulated in conveying goods and services to consumers through promotional means. Post Porter's [2] competitive advantage theory, scholarly pursuits have intensified in examining the origins of corporate competitive advantage, enriching customer value studies. Parasuraman [3] conducted a critical analysis of Woodruff's customer value measurement indicators, advocating for the dynamic nature of customer value and underscoring the need for its predictive assessment. Holbrook [4] articulated customer value as an "interactive, relativistic preference and experience." Gale et al. [5] conceptualized customer value as the equilibrium between benefits, quality, value, utility from product purchase and usage, and the incurred price, cost, sacrifices, thereby establishing attitudinal or emotional product affiliations.

In the Chinese context, the concept of customer value and the perspective of value trade-off have gained widespread acceptance. It is observed that scholars such as Hu et al. [6] and Hongsuchon et al. [7] have offered interpretations of customer value from the standpoint of value trade-off.

Park et al. [8] have posited that customer value protection encompasses dimensions of functional, symbolic, and experiential needs. Sheth et al. [9] delineated five categories of values influencing consumer choices: functional, social, emotional, epistemic, and conditional. Chen and Dubinsky [10] contended that in e-commerce, customer value includes the online shopping experience, perceived product quality, perceived risk, and product pricing. Yu and Sang [11] identified the constituents of customer value in Chinese online gaming, namely self-actualization, social interaction, role development, and leisure entertainment, through a combination of interviews, surveys, and statistical analyses. Ahmed et al. [12] explored the effects of green attitudes, green customer values (such as environmental image and perceived value), and the green marketing mix (incorporating product, packaging, price, promotion, and place) on green purchasing intentions, thus enriching the understanding of green purchasing theories and aiding in the development of green marketing strategies.

The current body of research on Hainan Province's tourism primarily zeroes in on policy and marketing dimensions. Hu and Wall [13] investigated the environmental strategies employed by the Nanshan Cultural Tourism Area, Hainan's most frequented site, unveiling that robust environmental management practices could bolster the image and competitiveness of tourist destinations. Tong and Kuryn [14] analyzed Hainan's off-island duty-free shopping policy from 1999 to 2020, concluding that these policies not only augmented the province's duty-free sales but also played a significant role in propelling the tourism industry. Lu and Ou [15], utilizing the Hainan International Tourism Island policy as a case study, applied empirical analysis and questionnaire methods to assess the impact of the policy system environment on policy implementers' intentions. Yamori et al. [16], focusing on Hainan Province and employing event study methodology, discerned that regional tourism industry policies hold value not only for the tourism sector of the destination area but also for other industries within the region.

The investigation into Hainan Airlines, conducted by Xu [17], a prominent company in Hainan Province, revealed its pivotal influence within the local tourism market.The analysis of Dong et al. [18], through the lens of sports tourism and utilizing a SWOT framework, elucidated the strengths, weaknesses, opportunities, and threats of Hainan's sports tourism, thereby illuminating novel pathways for the region's tourism evolution. The research undertaken by Hu and Wall [13] into the guide system of Hainan Province uncovered that improper management practices could result in a decline in guide professionalism and a deterioration in the quality of guide services. The exploration of Zhang et al. [19], drawing from national tourism statistics, identified challenges in Hainan's tourism industry, such as imprecise overall planning and lackluster marketing efforts. Feng [20] highlighted the potential of Hainan's tourism sector to achieve targeted marketing through new media in the internet era. The ongoing development of Hainan's Free Trade Port sets the stage for significant transformations within the province's tourism industry, shaped by the influences of a new era and new media.

In the realm of tourism market marketing, there is a noticeable gap in research focusing on pricing, particularly strategies anchored in consumer value-based pricing. Pinpointing the shortcomings in the tourism product pricing strategies of Hainan Province and formulating appropriate, scientifically grounded pricing strategies conducive to the region's development is of paramount importance. Examining Hainan's tourism pricing marketing strategies from a customer value perspective can significantly enhance industry practitioners' understanding and application of this concept, thus advancing the growth of Hainan's tourism industry and supporting its transition into a premier global tourist destination. Consequently, this study substantially enriches the discourse on marketing strategies centered around pricing and contributes to the literature on tourism product pricing strategies.

2 Analysis of Tourism Product Pricing Strategies in Travel Agencies of Hainan Province

2.1 Cost-Plus Pricing Strategy

In the context of Hainan Province's burgeoning tourism sector, an exploration was conducted into the prevalent pricing strategies employed by local travel agencies. Notably, the cost-plus pricing strategy emerged as a widely adopted approach. This strategy involves agencies accounting for various expenditures encountered by tourists, such as costs for meals, accommodation, transport, and entertainment, and appending a projected profit margin to set the final price for tourists. Although this method itself is not fundamentally flawed, it has been observed that travel agencies often engage in alternative practices aimed at maximizing profits.

The reliance on precise cost estimation is believed to align product pricing with consumer expectations, thereby offering a sense of value. However, divergences in perception between tourists and travel agencies frequently result in substantial valuation differences regarding tourism products. A case in point is the 'zero-fee tours', which, despite their initial appeal of incurring no expenses, often lead to deceptive practices. These include selling overpriced items during the trip or compromising on the standards of the travel group to extract significant profits. Such tactics gravely disrupt the tourism market's equilibrium, infringing upon tourists' rights and tarnishing the industry's overall credibility. The resultant erosion of service quality and reputation precipitates a marked decline in tourist loyalty towards these agencies. This hesitancy in repurchasing tourism products precipitates a drastic reduction in the market shares of various agencies, thereby exacerbating competitive tensions. In a bid to maintain profitability, agencies are often compelled to resort to even lower pricing and more deceptive strategies, further degrading the tourism sector's

public image.

2.2 Competition-Oriented Pricing Strategy

The investigation into pricing strategies of travel agencies in Hainan Province has revealed a problematic reliance on competition-oriented pricing. This strategy, characterized by significant price reductions to gain market share and sales volume, has been observed to detrimentally impact customer value and overall industry profitability. Agencies resort to aggressive price-cutting tactics to outcompete rivals, triggering industry-wide price wars and consequent declines in the prices of tourism products. Such an approach, primarily focused on undercutting prices, often neglects the essential aspects of consumer demands for product or service quality, culminating in subpar customer experiences. This not only adversely affects the reputation and credibility of the businesses involved but also undermines the perceived value of the products offered. Furthermore, the introduction of new tourism products typically prompts a rush among agencies to imitate each other, disregarding the need for distinct market positioning and brand strategy for their offerings. This results in a homogenization of products and services, eroding their uniqueness and appeal.

The prevalent misuse of competition-oriented pricing strategies in Hainan's travel industry poses significant challenges. Such strategies, centered around profit maximization and market share expansion, fail to foster a healthy competitive environment. By not prioritizing customer satisfaction, these approaches ultimately lead to tourist disillusionment, decreased likelihood of repeat purchases, and a subsequent decline in overall industry profitability. This trend underscores a pressing need for a strategic reevaluation among travel agencies, focusing on sustainable practices that balance competitive pricing with customer value and satisfaction.

3 Research Hypotheses and Data Sources

3.1 Hypotheses of the Empirical Research

The methodology section of this academic study delineates the empirical research hypotheses, formulated to explore the intricacies of tourism product pricing strategies in Hainan Province's travel agencies. The hypotheses, identified as H1 through H7, encompass an array of factors, such as gender, age, occupation, education, and so on.

H1 posits that discernible differences are present in the way tourists of varying genders appraise tourism products and select pricing strategies. H2 postulates that age influences tourists' assessments and pricing strategy choices significantly. H3 and H4 extend this premise to the realms of occupation and education, suggesting that these aspects crucially influence tourists' perspectives and preferences. H5 addresses the role of disposable income in shaping tourists' evaluations and choices regarding pricing strategies. Furthermore, H6 challenges the adequacy of existing pricing strategies in fulfilling tourists' expectations and needs. Lastly, H7 hypothesizes a general inclination among tourists towards pricing strategies that prioritize customer value.

3.2 Steps of the Empirical Research

In this study, the methodological approach involved a multi-step empirical research process, underpinned by a rigorously designed questionnaire, validated through the research of Wang [21]. The questionnaire, integral to the research, was sourced following an extensive review of literature relevant to the subject matter.

Subsequently, a representative sample comprising over 200 tourists who had visited Hainan was randomly selected for participation in the survey. The distribution of questionnaires was systematically conducted, with an emphasis on capturing a diverse array of perspectives from these tourists. The data collection phase was marked by a meticulous approach to ensure comprehensive coverage and high response rates.

Upon completion of the data collection, the gathered information was subjected to a thorough analytical process utilizing SPSS software. This stage of the research involved descriptive analysis, variance analysis, and correlation analysis, with the aim of delving deeply into the tourists' perceptions regarding the prevailing tourism product pricing strategies. The analyses were specifically focused on identifying prevailing issues within these strategies and verifying the proposed research hypotheses. The culmination of this analytical process led to the inference that the selection of tourism route pricing strategies by travel agencies should pivot fundamentally on the principle of customer value.

3.3 Data Sources of the Empirical Research

Regarding the data sources, the survey utilized a questionnaire that had undergone meticulous analysis and validation by researcher Wang Qin. The expectation was to collect a total of 200 valid questionnaires. The distribution of the questionnaire was facilitated through the WJX (Questionnaire Star) platform over a period from March 15th to March 30th, 2023. During this timeframe, a total of 217 questionnaires were received, out of which 200 were deemed valid, translating to a validity rate of 92.2%. This high validity rate was indicative of the robustness of the data, thereby rendering it suitable for in-depth empirical research.

4 Empirical Analysis

4.1 Descriptive Analysis of Sample Characteristics

(a) Analysis of tourists by gender

The distribution of tourists by gender was examined in the study. It was observed that males comprised 46.5% of the respondents, while females accounted for 53.5%. This demographic distribution showcases a relatively balanced male-to-female ratio among tourists visiting Hainan.

Table 1 presents the frequency, percentage, valid percentage, and cumulative percentage of tourists based on their gender.

Table 1. Descriptive analysis of tourists' socio-demographic attribute

Gender	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Male	93	46.5	46.5	46.5
Female	107	53.5	53.5	100.0

(b) Analysis of tourists by educational level

The educational background of tourists participating in travel agencies in Hainan was also analyzed. The data indicated that 36.5% of tourists held a university degree or higher, 31% possessed a junior college degree, 15.5% had completed high school/technical secondary school/technical school, and 15% held a master's degree or above. This suggests that tourists engaging with travel agencies in Hainan generally possess a relatively high level of education.

Table 2 details the distribution of tourists' educational levels, including frequency, percentage, valid percentage, and cumulative percentage for each category.

Table 2. Descriptive analysis of tourists' educational level attribute

Educational Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Elementary school or below	1	0.5	0.5	0.5
Junior high school	3	1.5	1.5	2.0
High school/technical secondary school/technical school	31	15.5	15.5	17.5
Junior college	62	31.0	31.0	48.5
Bachelor's degree	73	36.5	36.5	85.0
Master's degree or above	30	15.0	15.0	100.0

(c) Analysis of tourists by occupational status

Table 3. Descriptive analysis of tourists' occupational status attribute

Occupational Status	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Leaders of state organs, party organizations, enterprises, institutions	42	21.0	21.0	21.0
Professional and technical personnel	34	17.0	17.0	38.0
Clerical staff and related personnel	27	13.5	13.5	51.5
Personnel in the commercial and service industry	32	16.0	16.0	67.5
Production staff in agriculture, forestry, animal husbandry, fishery, and water conservancy	30	15.0	15.0	82.5
Production and transportation equipment operators and related personnel	23	11.5	11.5	94.0
Other occupations not conveniently categorized	12	6.0	6.0	100.0

The occupational distribution of tourists was analyzed, revealing that 15% of respondents were involved in various production roles, including the commercial and service industries, with professionals and technical personnel

representing 17% of the sample. Leaders of state organs, party organizations, enterprises, and institutions comprised 21% of the tourists surveyed.

Table 3 provides a breakdown of tourists' occupational status, detailing frequency, percentage, valid percentage, and cumulative percentage for each occupational category.

(d) Analysis of tourists by residential location

The study also examined the residential locations of tourists. The findings indicate that 53.5% of tourists resided in urban areas, while 46.5% hailed from rural regions. This suggests a predominant urban origin for tourists visiting Hainan, though the difference between urban and rural origins is relatively minor.

Table 4 offers a descriptive analysis of tourists' residential locations, including frequency, percentage, valid percentage, and cumulative percentage for urban and rural categories.

Table 4. Descriptive analysis of tourists' residential location attribute

Residential Location	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Urban	107	53.5	53.5	53.5
Rural	93	46.5	46.5	100.0

(e) Analysis of tourists by age

The survey's age distribution revealed a predominance of tourists aged 25-34 and 35-44, representing 27% and 25% respectively, together constituting over half of the respondents. The 15-24 age group accounted for 22.5%, while those aged 60 and above comprised 10%, indicating a young to middle-aged majority among Hainan's tourists.

Table 5 presents the age distribution of tourists, detailing frequencies, percentages, valid percentages, and cumulative percentages across various age brackets.

Table 5. Descriptive analysis of tourists' age attribute

Age	Frequency	Percentage	Valid Percentage	Cumulative Percentage
15-24 years old	45	22.5	22.5	22.5
25-34 years old	54	27.0	27.0	49.5
35-44 years old	50	25.0	25.0	74.5
45-59 years old	31	15.5	15.5	90.0
60 years old and above	20	10.0	10.0	100.0

(f) Analysis of tourists by marital status

Tourists' marital status was examined, revealing that 68% of respondents were married with children, followed by 22% who were single, and 10% married without children. This demographic suggests a prevalence of family-oriented or parent-child tourism in Hainan Province.

Table 6 outlines the marital status of tourists, including frequency, percentage, valid percentage, and cumulative percentage for each marital category.

Table 6. Descriptive analysis of tourists' marital status attribute

Marital status	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Single	44	22.0	22.0	22.0
Married without children	20	10.0	10.0	32.0
Married with children	136	68.0	68.0	100.0

(g) Analysis of tourists by monthly income

The survey showed a substantial proportion of tourists with monthly incomes between 5,001 and 8,000 yuan, accounting for 28.5%. The income brackets of 10,001 to 20,000 yuan and 8,001 to 10,000 yuan were represented by 17.5% and 16% of tourists, respectively, indicating a relatively high-income level among visitors to Hainan.

Table 7 offers a descriptive analysis of tourists' monthly income, covering frequency, percentage, valid percentage, and cumulative percentage across various income ranges.

4.2 Descriptive Statistical Analysis

(a) Assessment of data reliability and validity

Reliability analysis was conducted to determine the consistency and stability of the research outcomes. A reliability coefficient surpassing 0.8 signifies that the measurement instrument possesses high reliability. A coefficient

ranging between 0.7 and 0.8 is deemed acceptable. Utilizing SPSS software for analysis, the questionnaire yielded a reliability coefficient of 0.964, indicating a substantial degree of reliability, thus affirming the high reliability of the study's outcomes.

Table 7. Descriptive analysis of tourists' monthly income attribute

Monthly Income	Frequency	Percentage	Valid Percentage	Cumulative Percentage
No income	4	2.0	2.0	2.0
Below 1,000 Yuan	1	0.5	0.5	2.5
1001-3000 Yuan	21	10.5	10.5	13.0
3001-5000 Yuan	29	14.5	14.5	27.5
5001-8000 Yuan	57	28.5	28.5	56.0
8001-10000 Yuan	32	16.0	16.0	72.0
10001-20000 Yuan	35	17.5	17.5	89.5
Above 20000 Yuan	21	10.5	10.5	100.0

Table 8 encapsulates the results of the questionnaire's reliability analysis, presenting Cronbach's alpha and the number of items included.

Table 8. Questionnaire's reliability analysis

Reliability Analysis	
Cronbach's alpha	Number of items
0.964	18

Validity analysis was undertaken to assess the accuracy with which the measurement tool or method captures the intended concept or variable. In the context of questionnaire surveys, this analysis serves to verify the precision and reliability of the responses. This study incorporated the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity to evaluate the validity of the questionnaire responses, with the findings delineated in the subsequent table.

Table 9 outlines the KMO and Bartlett's test results, detailing the measure of sampling adequacy, approximate Chi-Square, degrees of freedom, and significance.

Table 9. KMO and Bartlett's test

KMO and Bartlett's Test		
KMO measure of sampling adequacy		0.967
Bartlett's test of sphericity	Approx. Chi-Square	6265.302
	Degrees of freedom	153
	Significance	$< .001$

The KMO metric gauges the degree of partial correlations among variables. A higher KMO value, approaching 1, suggests a more pronounced interrelation among variables, thereby more accurately reflecting data characteristics. The KMO value for this questionnaire, as indicated in the table, stands at 0.967, signifying the high reliability and accuracy of the measurement results upon thorough evaluation.

(b) Descriptives analysis

From Table 10 , it was found that the level of concern for tourism product pricing among tourists is significantly high, as evidenced by an average score of 3.92 and modal scores of 4.00 and 5.00. This finding suggests that a majority of tourists assigned scores of 4.00 and 5.00, indicating their heightened sensitivity to pricing and a substantial emphasis on the cost of tourism products.

Furthermore, the average score of 2.44 for the evaluation of pricing rationality reflects general dissatisfaction among tourists with the pricing of tourism products in Hainan Province. The mode of 2.00 in this aspect further accentuates the discontent with pricing strategies, implying a necessity for travel agencies to reassess the reasonableness and scientific basis of their pricing methods.

Regarding the question of "your satisfaction with the travel agency's tourism product pricing," the data revealed that the mean satisfaction score is 2.40, with a standard deviation of 1.268, a mode of 2.00, and a median of 2.00. These statistics indicate a notably low level of satisfaction among surveyed tourists regarding the pricing strategy of tourism products, highlighting a need for enterprises to address potential flaws in their pricing approaches.

Furthermore, in terms of the probability of tourists opting for the same travel agency in the future, the collected data showed a mean value of 2.35, a median of 2.00, and a mode of 1.00. These figures suggest a substantial likelihood that surveyed tourists would not choose the same travel agency again, signaling significant dissatisfaction with the agency and a lack of customer loyalty.

Table 10. Descriptive statistical analysis of tourists' responses to various aspects of tourism route pricing strategies

	Mean	Standard Deviation	Mode	Median
Attention to tourism product pricing	3.92	1.181	4[a]	4.00
Evaluation of pricing rationality	2.44	1.214	2	2.00
Satisfaction with pricing	2.40	1.268	2	2.00
Fikelihood of choosing the same travel agency again	2.35	1.239	1	2.00
Future pricing strategy 1	2.44	1.212	2	2.00
Future pricing strategy 2	2.42	1.281	1	2.00
Future pricing strategy 3	2.78	1.245	3	3.00
Future pricing strategy 4	2.38	1.286	1	2.00
Future pricing strategy 5	2.51	1.352	1	2.00
Future pricing strategy 6	2.60	1.249	3	3.00

Note: "a" means that multiple modes exist, and the smallest value is shown.

A detailed analysis was conducted regarding tourists' preferences for future pricing strategies of travel products. Several findings are presented. For the cost-based pricing strategy, the analysis showed a mean score of 2.44, a standard deviation of 1.212, and a mode and median both at 2.00. This indicates a moderate preference among tourists for this pricing strategy. The differential pricing strategy yielded a mean score of 2.42, with a standard deviation of 1.281. The median and mode for this strategy were found to be 2.00 and 1.00, respectively, suggesting a slightly lower preference compared to the cost-based strategy. The customer value-oriented pricing strategy was more favorably received, as indicated by an average score of 2.78, a standard deviation of 1.245, and both the median and mode at 3.00. This result highlights a stronger inclination among tourists towards pricing strategies that prioritize customer value. In terms of the product life cycle pricing strategy, the average score stood at 2.38, with a standard deviation of 1.286 and both the median and mode at 2.00 and 1.00, respectively, indicating a relatively lower preference. The product line pricing strategy received an average score of 2.51, accompanied by a standard deviation of 1.352 and a median of 2.00, with the mode at 1.00. This reflects a moderate preference among tourists for this strategy. Lastly, for other pricing strategies, an average score of 2.60 was observed, with a standard deviation of 1.249 and both the median and mode at 3.00, suggesting a relatively higher preference for alternative approaches. These results demonstrate a nuanced perspective among tourists regarding the desirable pricing strategies for future travel products. The analysis points towards a preference for customer value-oriented pricing strategies, underscoring the importance of aligning pricing with perceived customer value.

4.3 Correlation Analysis

Analysis of impact intensity based on Tables 11 and 12's examination revealed that the impact of tourists' gender, occupation, and residential location on attention levels, rationality evaluation, satisfaction, and likelihood was not statistically significant, with significance probabilities exceeding 0.05. Contrarily, tourists' age displayed a profound impact on these factors, evidenced by correlation coefficients of 0.413, -0.548, -0.527, and -0.563 respectively, and Sig values below 0.001. This reflects a highly significant moderate positive correlation between age and attention levels, and a highly significant strong negative correlation with rationality evaluation, satisfaction, and likelihood. Further analysis indicated that monthly income was significantly correlated with these factors. The correlation coefficients for attention level, rationality evaluation, satisfaction, and likelihood were 0.346, -0.547, -0.515, and -0.483 respectively, all with Sig values less than 0.001. This implies a significant moderate positive correlation between monthly income and attention levels, a strong negative correlation with rationality evaluation and satisfaction, and a moderate negative correlation with likelihood. Marital status also showed significant correlations, with coefficients for attention level, rationality evaluation, satisfaction, and likelihood being 0.424, -0.716, -0.678, and -0.679 respectively, and Sig values less than 0.001. This denotes a highly significant moderate positive correlation between marital status and attention levels, and a strong negative correlation with rationality evaluation, satisfaction, and likelihood. Educational level, specifically in relation to rationality evaluation, yielded a correlation coefficient of 0.033 and a Sig value of 0.15, indicating a significant positive correlation. From these findings, H1, H2, H4, and H5 were supported, suggesting significant differences in the evaluation of tourism products and pricing strategy choices among tourists of varying genders, ages, educational levels, and disposable monthly incomes. However, Hypothesis H3, proposing significant differences based on occupation, was not supported.

Table 11. Analysis of the impact of various tourist attributes on factors related to tourism product pricing strategy

Attribute	N		Mean	Standard Deviation
	Valid	Missing		
Gender	200	0	1.54	0.500
Age	200	0	3.64	1.265
Occupation	200	0	3.52	2.015
Monthly income	200	0	5.38	1.615
Residential location	200	0	1.47	0.500
Educational level	200	0	4.47	1.007
Marital status	200	0	2.46	0.832
Level of attention	200	0	3.92	1.181
Rationality evaluation	200	0	2.44	1.214
Satisfaction	200	0	2.40	1.268
Likelihood	200	0	2.35	1.239

Table 12. Correlation coefficients and significance tests of various tourist attributes with respect to the level of attention to tourism product pricing strategy

		Level of Attention	Rationality Evaluation	Satisfaction	Likelihood
Gender	Pearson correlation	-.076	-.013	-.026	.029
	Sig value	.286	.851	.716	.686
	N	200	200	200	200
Age	Pearson correlation	$.413^{**}$	$-.548^{**}$	$-.527^{**}$	$-.563^{**}$
	Sig value	.001	.001	.001	.001
	N	200	200	200	200
Occupation	Pearson correlation	.033	.037	.046	.101
	Sig value	.640	.600	.519	.157
	N	200	200	200	200
Monthly income	Pearson correlation	$.346^{**}$	$-.547^{**}$	$-.515^{**}$	$-.483^{**}$
	Sig value	.001	.001	.001	.001
	N	200	200	200	200
Residential location	Pearson correlation	-.009	-.094	-.053	.012
	Sig value	.89	.184	.453	.869
	N	200	200	200	200
Educational level	Pearson correlation	-.072	$.150^{*}$	.111	.131
	Sig value	.309	.033	.117	.065
	N	200	200	200	200
Marital status	Pearson correlation	$.424^{**}$	$-.716^{**}$	$-.678^{**}$	$-.679^{**}$
	Sig value	.001	.001	.001	.001
	N	200	200	200	200

Note: ** Correlation is significant at the 0.05 level; * correlation is significant at the 0.01 level.

4.4 Nonparametric Tests and One-Way ANOVA

The analysis utilized both one-way ANOVA (applied to data conforming to normal distribution) and nonparametric tests (utilized for data not adhering to normal distribution) as performed using SPSS software, to refine the study's conclusions.

(a) Age factor analysis

The age factor was scrutinized to understand its influence on various aspects of tourism product pricing strategies. The Kruskal-Wallis test revealed significant statistical differences across various age groups concerning their level of attention to pricing strategies, evaluation of pricing rationality, satisfaction, and the likelihood of continuing to choose the same travel agency.

Bonferroni multiple mean comparison and analyses in Figure 1 indicated distinct trends across different age brackets. Tourists aged 15-24 exhibited a heightened attention to prices compared to other age groups. A marked difference was noted between the age groups of 25-35 and those above 60, although no notable differences were observed among other age groups, suggesting a correlation between increasing age and heightened price sensitivity. Regarding the rationality evaluation of tourism pricing, a significant discrepancy was observed between the 15-24 age group and other age groups. No substantial differences were found among the remaining groups. Generally, an inverse relationship was noted between age and the rationality evaluation of tourism pricing. Similar trends were

evident concerning both the likelihood of repeat patronage and satisfaction levels.

In terms of future pricing strategies, several observations were made. In cost pricing strategy, significant differences were found between the 15-24 age group and other age groups, generally opting for scores between 1-3. Differential pricing strategy showed a similar trend, with the 15-24 age group differing significantly from others, typically choosing scores between 1-2. For the customer pricing strategy, notable differences were evident between the 15-24 age group and other age groups, with higher scores being selected across all age groups. The life cycle pricing strategy revealed significant differences between the 15-24 age group and others, with a preference for scores between 1-2. In the product line pricing strategy, a significant difference was noted between the 15-24 age group and other age groups, generally opting for a score of 2. Other pricing strategies also showed significant differences, with the 15-24 age group exhibiting a notably higher preference for alternative pricing strategies.

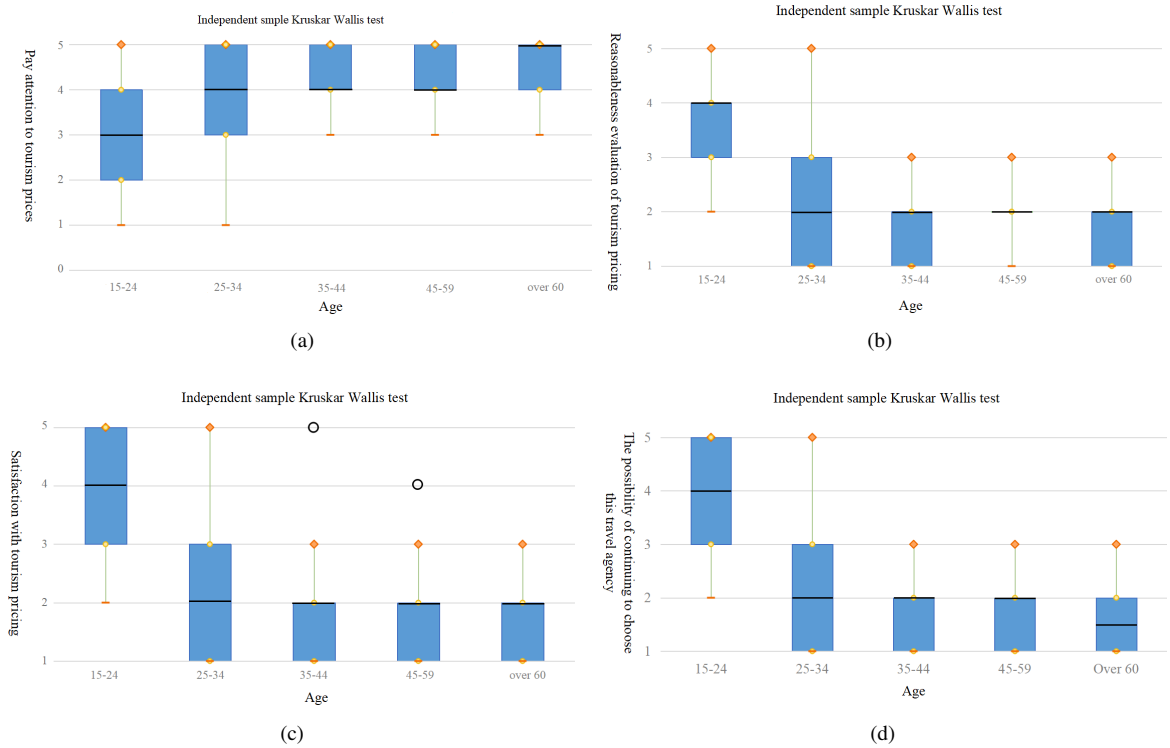

Figure 1. ANOVA test of age factor: (a) Evaluation of pricing rationality; (b) Description of the contents of the second subgraph; (c) Satisfaction with pricing; (d) Likelihood of continuing to choose

(b) Monthly income factor analysis

Utilizing the Kruskal-Wallis test, the study identified statistical differences among tourists with varying monthly incomes in relation to their engagement with Hainan Province's tourism product pricing strategies. This includes their attention to pricing, evaluations of pricing rationality, satisfaction levels, and the likelihood of continued patronage of the same travel agency.

Bonferroni multiple mean comparison and analyses in Figure 2 revealed several insights. Tourists with monthly incomes ranging from 3,000-5,000 yuan exhibited significantly different levels of attention to pricing when compared with those earning 8,001-10,000, 10,001-20,000, and over 20,000 yuan. No significant differences were found among other income groups. Collectively, tourists across all income levels displayed high attention to pricing, as evidenced by scores between 4 and 5. In terms of rationality evaluation, tourists with monthly incomes of 1,001-3,000 yuan and 3000-5000 yuan significantly differed from those earning 8,001-10,000, 10,001-20,000, and over 20,000 yuan. Other groups did not exhibit notable differences, with most income brackets scoring between 1 and 3. This suggests that tourists with higher incomes tend to assign lower ratings to the rationality of tourism pricing; a similar trend was observed for satisfaction and likelihood of choice.

Considering future pricing strategies adopted by travel agencies, for cost pricing strategy, tourists earning 1001-3000 yuan and 3000-5001 yuan demonstrated significant differences from those in higher income brackets. Generally, higher-income tourists assigned lower scores. In differential pricing strategy, similar differences were noted between the lower income groups and others, with overall low scores, predominantly between 1 and 3. The customer value pricing strategy revealed significant variations between tourists earning 1001-3000 yuan and other age groups, and

between those earning 3000-5001 yuan and higher income brackets, with higher scores chosen, usually between 3 and 5. For the product life cycle pricing strategy, similar significant differences were observed, with generally higher scores chosen, ranging between 2 and 5. In the product line pricing strategy, significant differences were apparent between lower and higher income tourists, with the former rating the strategy higher than the latter. Similar trends were observed in other pricing strategies, where lower income tourists rated higher compared to their higher income counterparts.

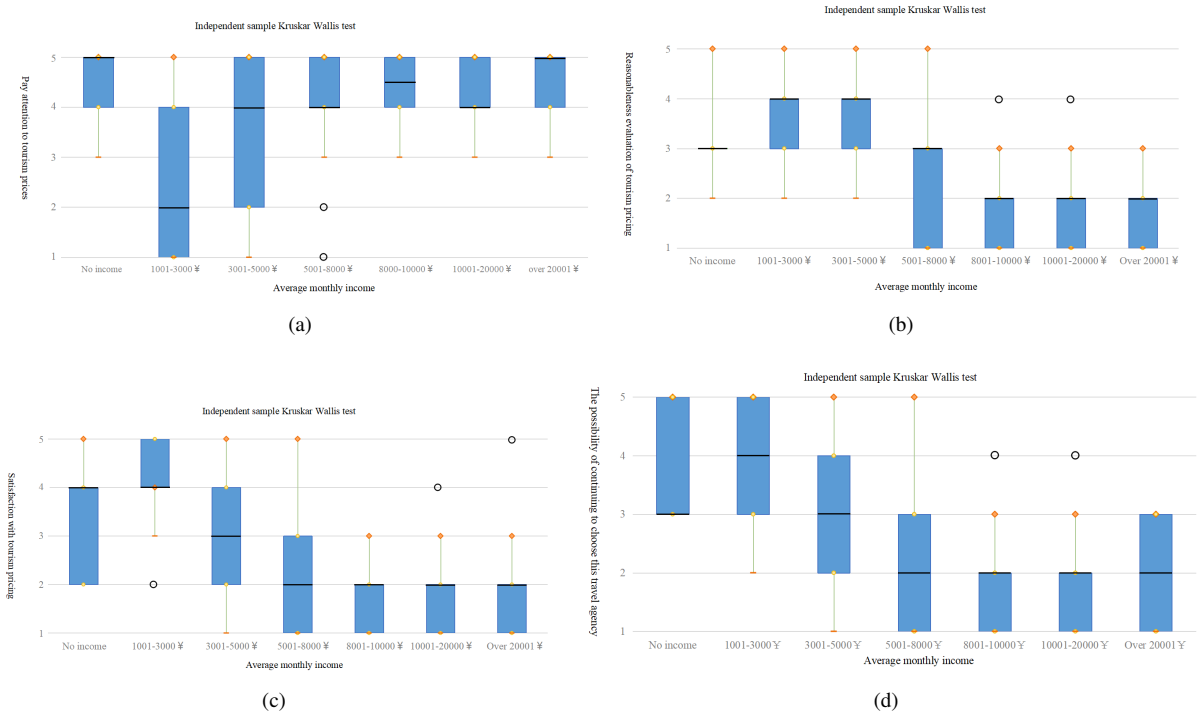

Figure 2. ANOVA test of monthly income factor: (a) Level of attention to price; (b) Evaluation of pricing rationality; (c) Satisfaction with pricing; (d) Likelihood of continuing to choose

(c) Analysis of marital status factor

The Kruskal-Wallis test was utilized to examine statistical differences among tourists of varying marital statuses in their responses to Hainan Province's tourism product pricing strategies. This included aspects such as the level of attention to pricing, evaluations of pricing rationality, satisfaction levels, and the likelihood of continuing to choose the same travel agency.

Subsequent analysis using Bonferroni multiple mean comparisons and Figure 3 yielded several insights. A significant variation in the level of attention to pricing was noted between unmarried tourists and the other two groups. Moreover, a noteworthy difference was observed between married tourists with and without children, with those having children showing the highest level of attention. In terms of rationality evaluation, married tourists with children differed significantly from the other groups, whereas no significant differences were found among the remaining groups. Overall, married tourists with children tended to rate the rationality of tourism pricing lower, a trend that was also evident in terms of satisfaction and likelihood of continuing to choose the same agency.

Concerning future pricing strategies to be adopted by travel agencies, for the cost pricing strategy, married tourists with children showed significant differences in their evaluations compared to other groups, generally rating this strategy lower, mostly opting for scores between 1 and 2. The differential pricing strategy exhibited similar trends, with married tourists with children rating this strategy lower, typically scoring between 1 and 2. In contrast, the customer pricing strategy saw significant differences, with most tourists, particularly those married with children, rating this strategy higher, frequently scoring between 3 and 5. For the product life cycle pricing strategy, significant disparities were noted between married tourists with children and other groups. Those who were unmarried or married without children tended to give higher ratings, usually between 3 and 5. The product line pricing strategy also revealed significant differences, with all groups generally rating this strategy higher, with scores mostly ranging from 3 to 5. Similarly, for other pricing strategies, married tourists with children exhibited significant differences in their evaluations compared to other groups, with all groups generally assigning higher ratings, often choosing scores between 3 and 5.

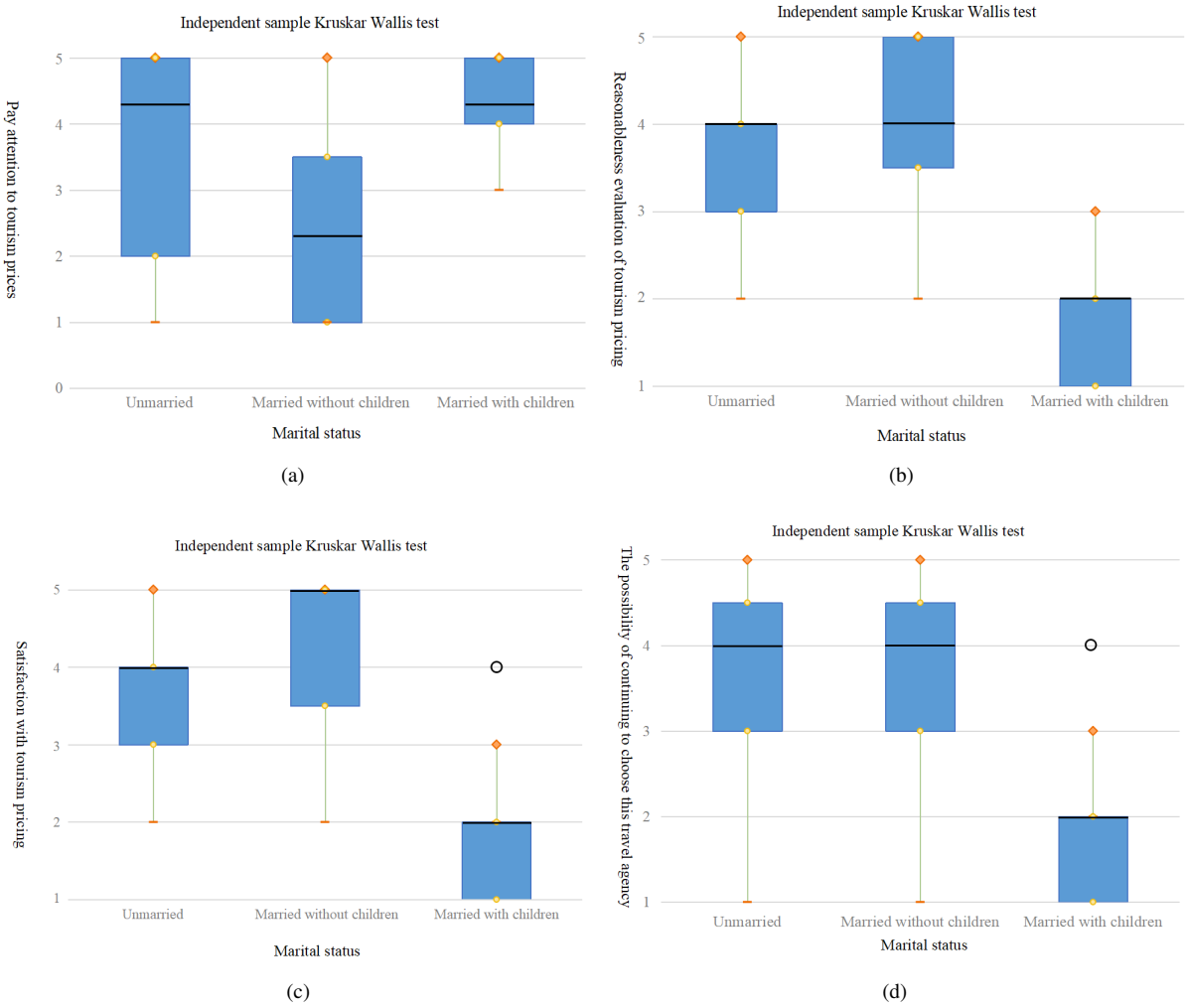

Figure 3. ANOVA test of marital status factor: (a) Level of attention to price; (b) Evaluation of pricing rationality; (c) Satisfaction with pricing; (d) Likelihood of continuing to choose

(d) Analysis of the impact of educational level

The Kruskal-Wallis test was employed to determine whether statistical differences existed in the evaluation of the rationality of Hainan Province's tourism product pricing strategies among tourists of varying educational levels.

Subsequent analysis, incorporating Bonferroni multiple mean comparisons, Table 13 and Figure 4, revealed significant differences in rationality evaluations between junior college graduates and those holding bachelor's and master's degrees or higher. No notable differences were found among the other educational groups. This pattern suggests a general trend: as the educational level increases, the evaluation of the rationality of tourism pricing tends to decrease.

Table 13. Results of nonparametric test of educational factors

Indicator	Monthly Income (Yuan)	N	Average Rank	Rank Sum Test H	Rank Sum Test P	Multiple Comparisons
Rationality	Junior high school	4	125	11.234	0.024	*ab*
	High school/technical secondary school/technical school	3	95.34			*ab*
	Junior college	6	83.39			*a*
	Bachelor's degree	7	108.93			*b*
	Master's degree or above	3	117.42			*b*

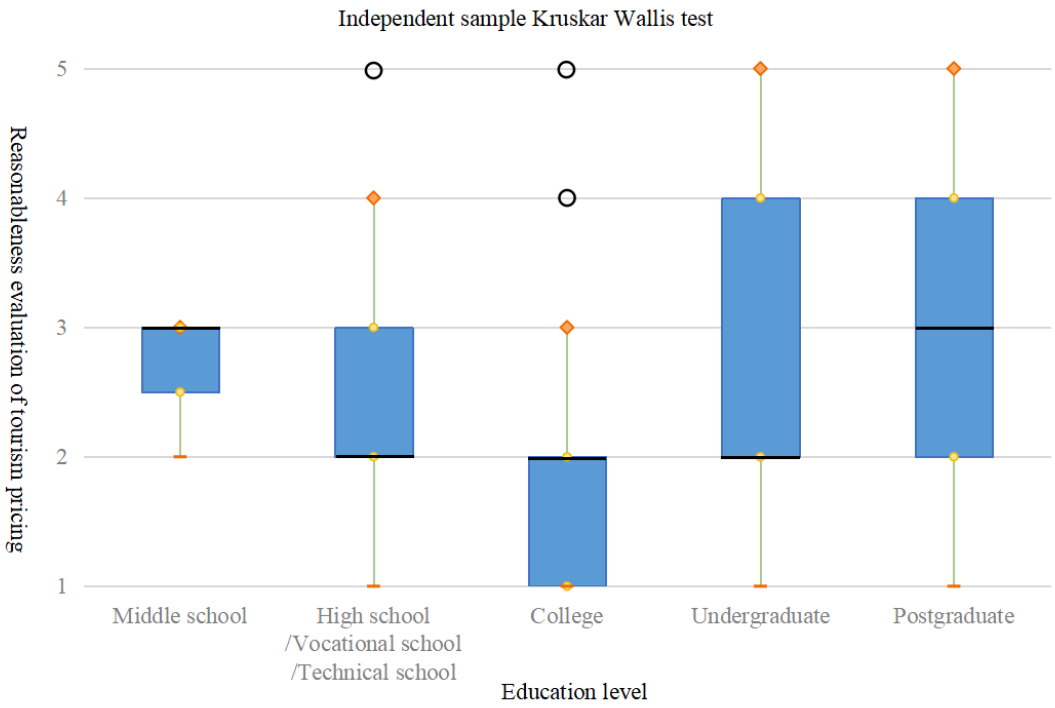

Figure 4. Analysis of the impact of educational level

5 Implementation of Customer Value Pricing Strategy in Hainan Province Travel Agencies

5.1 Customer Value Pricing Strategy

The formulation of a pricing strategy based on customer value is paramount for travel agencies in Hainan Province aiming to augment customer satisfaction. The following four-step approach is proposed:

It is essential to ascertain the varying needs and expectations of diverse tourist demographics. This encompasses understanding their preferences concerning destinations, transportation, and accommodations. Analysis indicates that younger tourists with lower incomes tend to prioritize the overall cost-effectiveness of tourism products, with less emphasis on high-end food and lodging. Conversely, tourists embarking on family or parent-child trips generally exhibit heightened expectations for accommodation and dining. Offering discounted prices may be advantageous in attracting elderly tourists. To enhance customer value, travel agencies need to be attuned to the specific requirements of different customer segments.

Transparent communication of the intrinsic value embedded in tourism products is crucial. Agencies should facilitate consumers' comprehension of product characteristics, leading to an accurate valuation of the product. This approach not only aids consumers in recognizing the genuine merits of the products but also prevents misinformation. Furthermore, agencies should assist tourists in evaluating their preferences, guiding them to select appropriate products. Probing into the potential and unique advantages of tourism products, and elucidating these through various mediums such as customer feedback and multimedia presentations, can effectively bridge the gap between tangible products and perceived services, maximizing economic returns.

The value of tourism products should be effectively transmitted to tourists. In promoting and packaging these products, the emphasis on their inherent value is essential. Utilizing targeted advertising and other promotional techniques can efficiently communicate price information. For example, contrasting the value of route products against competitors' offerings underscores their unique attributes. Highlighting the practical applications of route products in advertisements, detailing their functionalities and benefits, caters to the specific demands of targeted customer groups. Building trust through accurate information and high-quality services enhances the likelihood of product selection. Ensuring consistency between the advertised value and the actual customer experience during the purchasing process is vital in fostering customer satisfaction and loyalty.

Concluding this process, the pricing of tourism products, guided by market research and consumer feedback, paves the way for their introduction into the market. The execution of evaluation and monitoring post-launch, followed by iterative adjustments and refinements to the pricing strategy based on market response, is instrumental in achieving the dual objectives of meeting customer needs and maximizing economic gains.

5.2 Elucidation of the Understanding Value Pricing Strategy

The understanding value pricing strategy is characterized by its orientation towards customer value, placing the customer's experiential perspective at the forefront of pricing decisions. This approach ensures alignment between the perceived value of products or services and the financial outlay by customers. It necessitates an in-depth comprehension of customer needs and preferences, coupled with effective communication of the intrinsic value of the offerings, subsequently forming the foundation for pricing.

In this strategy, pricing is influenced not solely by the cost and market demand but also by the value perceived by the customers, encompassing aspects like quality and brand image. Emphasizing "value creation," this strategy seeks to attract and retain customers by delivering value that surpasses their expectations, thereby securing a competitive edge in the marketplace. It advocates the notion that customers are inclined to pay prices that resonate with the actual value of the product or service. Consequently, it becomes imperative for pricers to take into account the perceived value by customers. Value creation is achievable through the introduction of innovative products or services, the provision of exceptional consumer experiences, and prompt responses to customer needs. When formulating pricing strategies, it is crucial for tourism enterprises to extend their focus beyond mere profit considerations. They should instead originate from an understanding of the customers' capacity to afford costs, thereby ensuring market acceptance of the prices.

5.2.1 Integration of customer value in various product life cycle stages

During the development phase of tourism products, it is imperative for travel agencies to pinpoint tourist routes that mirror the needs of customers, while simultaneously focusing on elevating the quality aspects. Such measures are instrumental in augmenting the customer experience and subsequently, enhancing customer value. In the initial introduction phase, travel agencies are tasked with employing diverse promotional techniques and channels to effectively showcase the unique characteristics and merits of their products. This strategy aims at establishing a robust brand image, elevating product visibility and reputation, thereby drawing in a broader base of potential customers.

As tourism products progress into the growth phase, where market dynamics evolve and competition becomes more pronounced, enterprises face the challenge of not only retaining their existing clientele but also attracting new customers. This dual approach is vital for amplifying market share and sales. When tourism products reach maturity, customers begin to seek novel value propositions, especially in the face of emerging, more advanced alternatives. Upon entering the decline phase, there is a notable shift in tourist preferences, with an increased expectation for enhanced value offerings from these products.

5.2.2 Challenges in executing life cycle pricing strategy in current context

The execution of life cycle pricing strategies within Hainan Province's travel agencies is hampered by their limited experience in the conceptualization of tourism products. The predominant issues encountered include:

- A prevalent trend of product homogenization, marked by a lack of innovation and distinctive features.
- Pricing strategies for products are often found to be impractical, including superfluous tourism elements.
- A tendency towards creating low-end products that are susceptible to easy replication.
- The presentation of product information is frequently inadequate or misleading.

Such drawbacks, namely the simplistic nature and absence of uniqueness in the offerings of travel agencies, pave the way for easy imitation. This, in turn, injects a high degree of unpredictability into the product life cycles, thereby impeding the effective deployment of life cycle pricing strategies.

5.3 Strategic Approaches to Pricing Throughout Different Product Life Cycles

- In the introduction phase, a complimentary pricing strategy is implemented, characterized by lower price points aimed at maximizing consumer attraction. This approach, employed during the nascent stages of a product's launch by travel agencies, is geared towards drawing tourist attention in the short term. It is critical, however, to ensure that this strategy does not lead to excessive charges to the consumers.
- During the growth phase, a penetration pricing strategy is adopted. This phase is marked by customers' propensity to compare products across different brands. Travel agencies, therefore, are tasked with establishing their unique brand identity and differentiating their product offerings. Such distinctiveness in products is instrumental in shaping the agency's image in the consumer's mind.
- In the maturity phase, the focus of travel agencies shifts to cultivating unique competitive advantages. This involves two primary strategies: first, the provision of bespoke travel products that cater to diverse customer preferences and high-quality service to boost customer satisfaction; second, the diversification of product lines through the development of new offerings to captivate customer interest and sustain a competitive edge.
- For the decline phase, a streamlining strategy is recommended. This involves a gradual reduction in market presence, concentrating resources on areas where the agency has a competitive edge. Concentrating on core

products becomes crucial. Concurrently, a consolidation strategy is proposed, involving the renewal and enhancement of tourism products to bolster core competitive strengths.

5.3.1 Variations in tourism products during usage

- Variations in tourist demographics such as age, occupation, income, and educational level significantly influence their purchasing decisions and capacity, resulting in diverse perceived values. It is incumbent upon travel agencies to formulate differential pricing strategies tailored to these distinct tourist profiles, thereby fulfilling their specific needs and expectations and offering bespoke services.
- Differences in technical demands are inherently present among tourism route products. Certain routes may necessitate higher physical or technical requirements, typically incurring additional costs.
- Discrepancies in service quality are evident among tourism route offerings. These may include variations in service standards, post-sale support, and guide services, with some routes providing services of a higher caliber.
- The comfort level offered by tourism route products varies, accommodating diverse consumer preferences. This differentiation encompasses aspects such as the quality of accommodation, transportation options, and dining arrangements, with premium routes typically delivering a more luxurious travel experience.
- Pricing disparities are observed across different tourism route products. The determination of prices for tourism routes is influenced by a multitude of factors, including the specific elements of the product and market demand dynamics.

5.3.2 Guiding principles for product line pricing in the tourism industry

In the intricately linked domain of tourism products, differentiating product levels is essential for enabling customers to comprehend and appreciate the value of each route. To attain this objective, several key principles must be adhered to:

- Alignment between experienced value and actual product price is imperative. Given the diverse price sensitivities, technical complexities, and competitive pressures of various tourism products, travel agencies are obliged to consider these factors when developing product line pricing strategies. This consideration is crucial to prevent pricing from exceeding or falling short of market norms.
- Acknowledgement of market demand and competitive factors in route products is crucial. Agencies are tasked with monitoring market demands and competitive landscapes to formulate judicious pricing strategies. In scenarios of high market demand and significant product differentiation, elevating prices is justified. Conversely, in low-demand situations, price reductions are warranted to entice a broader customer base.
- Data-driven price adjustments for route products are essential. Agencies must engage in comprehensive market data collection and analysis, encompassing aspects like price trends, consumer demands, and profitability of tourism offerings. Such thorough analysis underpins the creation of more scientifically grounded and rational pricing strategies.
- Emphasis on equilibrium in pricing strategy is vital. Agencies must balance the equilibrium among various levels within the tourism product line and between price and quality. Sustaining this equilibrium is the key to successfully implementing pricing strategies and guaranteeing the long-term sustainable growth of tourism offerings.

5.4 Implementation of Demand Differential Pricing in Tourism

Demand differential pricing, an approach characterized by varying prices based on factors such as customer demand elasticity, purchasing power, and price sensitivity, is pivotal in the tourism sector. This strategy entails the modification of product prices across different dimensions, time, location, and customer segments, to broaden market reach and enhance sales volume. It is generally implemented in the following forms:

- Segmented pricing. This strategy involves market segmentation based on criteria like purchase quantity, frequency, and timing among different customer groups. Distinct pricing strategies are developed for each identified segment.
- Personalized pricing. Under this approach, prices are customized for individual customers, taking into account their purchasing power and behavior patterns. This facilitates optimal pricing strategies across varied markets and customer demographics.

In the tourism industry, the application of demand differential pricing is prevalent. For example, different pricing strategies are employed during diverse holidays and seasons to cater to the consumption demands of distinct customer groups. Moreover, the strategy involves setting varied prices for different destinations and tourism products with the objective of maximizing sales revenue.

6 Conclusion and Outlook

6.1 Conclusion

In the context of Hainan Free Trade Port's establishment, this investigation has delved into customer value-based tourism pricing strategies of travel agencies in Hainan Province. The study postulated seven hypotheses, analyzed through empirical methods, yielding the following insights:

Descriptive statistical analysis revealed that: (a) There exists a pronounced interest among tourists regarding the pricing of tourism products and the strategies employed by travel agencies. (b) Tourists perceive the pricing of Hainan Province's tourism offerings as somewhat unreasonable. (c) A low level of satisfaction with tourism product pricing was observed among the participants, paralleled by diminished loyalty. (d) A predominant preference for the customer value pricing strategy was noted among tourists. Subsequent Pearson correlation analysis demonstrated significant variations in the evaluation of tourism products and the selection of pricing strategies, contingent upon variables such as age, monthly income, marital status, and educational level. Further examination utilizing one-way ANOVA, non-parametric tests, and additional methodologies indicated both commonalities and disparities in the assessment of tourism products across different customer segments. Nevertheless, a predominant focus on customer value strategies was apparent in the choice of pricing strategies. Drawing from these analytical findings, the study advocates for the adoption of the understanding value pricing strategy and the demand differential pricing strategy as efficacious approaches for advancing the pricing strategies of travel agencies in Hainan Province.

6.2 Study Limitations and Future Research Directions

In the context of this study, a questionnaire originally designed by Wang Qin was employed, presenting certain limitations. Specifically, the specialized nature of the questions posed challenges for comprehension among tourists with lower educational backgrounds, thereby constraining the respondent demographic. This limitation has implications for the breadth of the survey's applicability. Additionally, the empirical research faced limitations in terms of time, effort, and financial resources. These constraints resulted in a restricted data collection scope, leading to a sample size that may not fully represent the population, potentially impacting the scientific robustness of the conclusions drawn.

The research undertook a quantitative analysis of tourists' perceived value, formulating an index system and establishing models for the measurement of this perceived value. This approach serves as a referential framework for travel agencies in Hainan Province in strategizing their pricing methodologies. Moreover, the study extended its analysis to encompass the comparative attitudes of both travel agencies and tourists in Hainan Province towards tourism product pricing strategies. It delved into the challenge of devising scientifically sound pricing mechanisms that account for the interests of both tourists and travel agencies amidst scenarios characterized by incomplete information.

funding

This work was supported by Hainan Provincial Natural Science Foundation High Level Talent Project (721RC1047, Research on the Mechanism of Social Capital's Role in Global Supply Chain Reconstruction Relying on HainanFree Trade Port) and (722RC632, Research on the Comprehensive Safety Risk Management Mechanism and Implementation Path of Schools in the Post Epidemic Era). This work was supported by Humanitiesand Social Sciences Research Innovation Team of Hainan University (HDSKTD202025, Hainan Free Trade PortCross-border E-commerce Service Innovation Research Team).

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

[1] R. B. Woodruff, "Customer value: The next source for competitive advantage," *J. Acad. Mark. Sci.*, vol. 25, pp. 139–153, 1997. https://doi.org/10.1007/BF02894350

[2] M. E. Porter, *Competitive Advantage Theory*. Beijing: Huaxia Publishing House, 1997.

[3] A. Parasuraman, "Reflections on gaining competitive advantage through customer value," *J. Acad. Mark. Sci.*, vol. 25, pp. 154–161, 1997. https://doi.org/10.1007/BF02894351

[4] M. B. Holbrook, "The nature of customer value: An axiology of services in the consumption experience," in *Service Quality: New Directions in Theory and Practice*. Thousand Oaks, CA: Sage, 1994, pp. 21–71. https://doi.org/10.4135/9781452229102.n2

[5] B. T. Gale, *Managing Customer Value*. New York: Free Press, 1994.

[6] J. Hu, Z. M. Jiang, and H. M. Liu, "The impact of privacy concerns on customer value co-creation behavior in the context of online tourism consumption: An intermediary mechanism based on self depletion," *J. Overseas Chin. Univ. Philos. Soc. Sci.*, no. 5, pp. 57–69, 2021. https://doi.org/10.16067/j.cnki.35-1049/c.2021.05.006

[7] T. Hongsuchon, K. M. Alfawaz, and T. Hariguna, "The effect of customer trust and commitment on customer sustainable purchasing in e-marketplace, the antecedents of customer learning value and customer purchasing value," *Front. Environ. Sci.*, vol. 2022, no. 10, p. 964892, 2022. https://doi.org/10.3389/fenvs.2022.964892

[8] C. W. Park, B. Jawarski, and D. J. MacInnis, "Strategic brand concept-image management," *J. Mark.*, vol. 50, no. 4, pp. 135–145, 1986.

[9] J. N. Sheth, B. I. Newman, and B. L. Gross, *Consumption Values and Market Choices*. South-Western Pub., 1991.

[10] Z. Chen and A. J. Dubinsky, "A conceptual model of perceived customer value in e-commerce: A preliminary investigation," *Psychol. Mark.*, vol. 20, no. 4, pp. 323–347, 2003. https://doi.org/10.1002/mar.10076

[11] P. Yu and W. T. Sang, "Exploring the elements of customer value in the Chinese online game market," *J. Beijing Univ. Bus. Technol.*, vol. 26, no. 4, pp. 76–82, 2011. https://doi.org/10.16299/j.1009-6116-2011.04.018

[12] R. R. Ahmed, D. Streimikiene, H. Qadir, and J. Streimikis, "Effect of green marketing mix, green customer value, and attitude on green purchase intention: Evidence from the USA," *Environ. Sci. Pollut. Res.*, vol. 30, no. 5, pp. 11 473–11 495, 2023. https://doi.org/10.1007/s11356-022-22944-7

[13] W. Hu and G. Wall, "Tour guide management in Hainan, China: Problems, implications and solutions." *Asia Pac. J. Tour. Res.*, vol. 18, no. 3, pp. 205–219, 2013. https://doi.org/10.1080/10941665.2011.640699

[14] Z. L. Tong and M. Kuryn, "Research on the impact of offshore duty free shopping policy on Hainan tourism consumption." *Price Theory Pract.*, vol. 2021, no. 9, pp. 74–77, 2021. https://doi.org/10.19851/j.cnki.CN11-1010/F.2021.09.336

[15] H. Y. Lu and S. Y. Ou, "The impact of policy system environment on policy executive intention: An empirical study based on Hainan international tourism island policy," *Leadersh. Sci.*, vol. 2018, no. 17, pp. 55–57, 2018. https://doi.org/10.19572/j.cnki.ldkx.2018.17.018

[16] N. Yamori, J. J. Sun, and S. Zhan, "The announcement effects of regional tourism industrial policy: The case of the hainan international tourism island policy in China," *Tour. Econ.*, vol. 23, no. 1, pp. 200–205, 2017. https://doi.org/10.5367/te.2015.0493

[17] Z. F. Xu, "Research on the role of famous Hainan enterprises in tourism destination marketing," Doctoral Dissertation, Hainan University, China, 2019. https://doi.org/10.27073/dcnki.ghadu.2019.000730

[18] E. W. Dong, B. Fu, Y. T. Li, J. N. Jin, H. Y. Hu, Y. J. Ma, Z. C. Zhang, Q. W. Xu, and Z. Cheng, "Hainan sport tourism development-a SWOT analysis," *Sustainability*, vol. 14, no. 19, p. 12653, 2022. https://doi.org/10.3389/fenvs.2022.964892

[19] P. F. Zhang, H. Yu, M. Z. Shen, and W. Guo, "Evaluation of tourism development efficiency and spatial spillover effect based on EBM model: The case of Hainan Island, China," *Int. J. Environ. Res. Public Health*, vol. 19, no. 7, p. 3755, 2022. https://doi.org/10.3390/ijerph19073755

[20] R. R. Feng, "Research on propaganda of Hainan tourism enterprises in the era of new media," *China Bus. Rev.*, vol. 2017, no. 36, pp. 53–54, 2017. https://doi.org/10.19699/j.cnki.issn2096-0298.2017.36.026

[21] Q. Wang, "A study on pricing strategies for tourist routes in travel agencies based on customer value," Doctoral Dissertation, Northwestern University, United States, 2010.