

Buy or to Buy: An examining of shopping behavior towards domestic duty-free tourists in China

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Abstract

Shopping, with a great significant contribution to Hainan's tourism industry income, becomes more and more popular for the domestic tourists in China. On one side, duty-free shopping income takes up more than one third of Hainan's total tourism income in recent passed years, on the other side, duty-free shopping income will increase and take more percentage in the near future year. This paper try to examine the basic shopping behaviour model of the domestic duty-free shopping tourists. Data were collected from 67 respondents by using convenience sampling way. The motivation of duty-free shopping tourists' shopping behavior is divided into five dimensions: goods attributes, shopping destination attributes, tourism elements, purpose and social demanding. Quality, brand, the shortage of specific goods in the international market, low price or cost, convenient payment and other factors are the important factors to stimulate their shopping behavior. The results have at least a significant impact on duty-free product operators and marketers to understand the needs of duty-free product shoppers in China.

Keywords: Shopping Behavior, Domestic Tourists, Duty-Free Shopping, Hainan

Introduction

Duty-free shopping in Hainan can be dated back to 2011, with Chinese Tourism Group opened the first duty-free store in Sanya city Hainan province. In 2013, 2.367 billion RMB has been reached for the first year’s sales amount with only seven types of duty-free goods. In 2021, 49.46963 billion RMB sales amount has been reached. Because of the COVID-2019, the sales amount of 2022 is 34.89866 billion RMB with a decrease amount of 14.57097 billion RMB. Compared for the sales amount for the past decade, We can conclude that sales amount in 2021 are more than 20 times those in 2012.

Table 1: Amount of Sales at Hainan’s Duty-free Shops

Year	Total sales(billion RMB)	Comparative data(billion RMB)
2012	2.367	----
2013	3.3	0.933
2014	4.33	1.03
2015	5.54	1.21
2016	6.07	0.53
2017	8.02	1.95
2018	10.1	2.08
2019	13.49	3.39
2020	27.47923	13.98923
2021	49.46963	21.9904
2022	34.89866	—14.97097

(Source: compiled from the Haikou customs bureau)

From 2012 to 2022, total sales in Hainan’s duty-free shops increased significantly, which lead to increases in total tourism income, as depicted by the following Bar chart at table 2.

Table 2: Comparative percentage between total duty-free sales and total tourism income in Hainan

Year	Total Sales (billion RMB)	Total tourism income (billion RMB)	Percentage
2012	2.367	37.912	6.243405782
2013	3.3	42.856	7.700205339
2014	4.33	50.653	8.548358439
2015	5.54	57.249	9.677024926
2016	6.07	67.21	9.031394138
2017	8.02	81.199	9.876968928
2018	10.1	95.016	10.62978867
2019	13.49	105.78	12.75288334
2020	27.47923	87.286	31.48182985

2021	49.46963	138.434	35.73517344
2022	34.89866	104	33.55640385

(Source: Compiled from Haikou customs bureau in Hainan)

Tourism industry is the core industry in Hainan province, with a percentage of nearly 25% in the provincial GDP. Now the total sales of duty-free goods take more than one-third of the total tourism income in Hainan, thus it is very important to undertake systematic research on this duty-free sector.

As the only duty-free tourism destination in China, Hainan province regards tourism as its core industry. The development of tourism needs the support of tourists, and the shopping behaviour of tourists coming to Hainan to buy duty-free goods is very important. The purpose of this study is to analyse the shopping behaviour of tourists who come to Hainan to buy duty-free goods, draw relevant conclusions, help duty-free commodity operators and duty-free commodity marketers know customers and provide suggestions for opening up airport duty-free shops in other airports in China.

Literature Review

Tourists' shopping behaviour has become an essential part of the tourism industry, and this has gained considerable attention from many scholars (Abdulsalam & Danna, 2021; Silva et al., 2020). Due to its huge contribution to the local economy, it is of fundamental importance that destination management organisations (DMOs) realize what factors influence tourists' shopping behaviour. Failing to understand the factors that attract tourists to shop will significantly affect local businesses and lower the potential income generated from tourism (Creed et al., 2021). In particular, it is also crucial to observe tourists' shopping behaviour at the recently developed Free-trade Zone in Hainan which become the country's pilot project. This could be the first-ever study carried out on this topic in Hainan after being gazetted as Free-trade zone.

In the literature, there have been many factors that affect shopping behaviour such as demographic, socioeconomic, and other travel-related characteristics (Meng, Fang et al., 2019). This study, we try to examine the basic shopping behaviour model of the domestic duty-free shopping tourists.

Methodology

Measurement and Sampling

We designed a structured questionnaires to collect the data, which are divided into three parts. The first part is the relevant characteristics of shopping tourists shopping in Hainan duty-free shops. Respondents asked

to choose the shopping travel statement best for them or to answer the questionnaire based on previous experience of buying duty-free goods. The second part mainly focuses on the personal shopping behavior attributes of duty-free shopping tourists. Respondents were required to rate with a Likert five-point table from 1= "strongly disagree" to 5= "strongly agree" with their views and experiences with 67 statements distributed across six dimensions: function, gift-giving, emotion, self-use, interpersonal communication and consumption orientation. The last part was used to collect the socio-demographic information of the respondents.

We carried out on-site survey and questionnaire distribution in the urban duty-free shop and Phoenix Airport duty-free shop in Sanya city, Hainan Province, and also investigated the friends around us who have bought duty-free goods from Hainan. Respondents need to meet the following conditions: (1) non-Hainan local residents (2) bought duty-free goods in duty-free stores in Hainan province (3) Chinese nationality. The screening was conducted by respondents, and the findings of 67 of the 90 respondents could be used for further analysis and research.

Data Analysis

Descriptive analyses including frequency, mean, and standard deviation were used to get to know tourists' demographic characteristics, shopping-related characteristics, influencing factors, decision-making, attitudes towards shopping. Potential motivational dimensions were determined by factor analysis to classify a total of 24 motivational metrics. It was a must to apply the KMO and Bartlett's Test to make sure the data was meet with factor analysis. Finally, we explain the relationship between shopping expenditure and income.

Study Results

Demographic profile of duty-free shopping tourists

There are 51 females and 16 males among the duty-free shopping tourists, taking up 76.1% and 23.9% of the total respectively. Young people with the age from 18 to 39 take up the percentage of 74.6%, and middle-aged people with the age from 40 to 59 take up the percentage of 19.4%, so the senior-aged people with the age 60 or more take up the percentage of 6%. For the education level, more than 94% duty-free shopping tourists have got or completed college/university education, with more than half of them reached postgraduate or above education. There is no person who just get the secondal/high school education, which has been showed that the people who come to Hainan to make the duty-free shopping reached higher education level. Talking about the annual income, more than 80% of the duty-free tourists earned money rang from RMB 70,000 to 129,999 per year, only 15% of them get the

income which is less than 70,000 per year, which indicates the duty-free tourists who come to Hainan to shop are middle-class or above in China. Concerning about the family members, nearly half of them own 3 members and take a predominant place in the scale of their household, accounting 49.3% of the total, followed by 11(16.4%), 9(13.4%), 8(11.9%) , 5(7.5%) and one(1.5%) person(s) per household, which means most of household have one or two children.

Table 3: Demographic profile of duty-free shopping tourists

	No.	%		No	%
Gender			Annual income		
Male	51	76.1	Less than RMB 49999	6	8.9
Female	16	23.9	RMB 50000-69999	4	6.0
Age			RMB 70000-89999	13	19.4
18-29	21	31.3	RMB 90000-109999	26	38.8
30-39	29	43.3	RMB 110000-129999	15	22.4
40-49	8	11.9	130000 or more	3	4.5
50-59	5	7.5	Household		
60 or above	4	6.0	1	11	16.4
Education Level			2	9	13.4
Less than secondary /high school	0	0.0	3	33	49.3
Secondary/high school	4	6.0	4	8	11.9
College/university	27	40.3	5	5	7.5
Postgraduate or above	36	53.7	6 or more	1	1.5

Shopping related characteristics duty-free shopping tourists

As for the shopping characteristics of duty-free shopping tourists, the quality and brand are the most concerned contents, and the standard deviation is lower than 1.00. The duty-free shopping tourists do not pay much attention to the display/ exhibition, packaging and other matters of duty-free goods. It shows that duty-free shopping tourists care more about the connotation attribute of duty-free goods and pay less attention to the external attribute. Other factors that affect tourists to buy duty-free goods include Commemorativeness(M=3.75), Price(M=3.72), Appearance (M=3.63), Atmosphere & Environment(M=3.49) and location(M=3.46).

Table 4: The attributes of products which the duty-free shopping tourists were concerned about (N=67)

	Mean	Std. dev.	Std.Error
Quality	4.11	.901	.08
Brand	3.91	.867	.08
Commemorativeness	3.75	.969	.09
Price	3.72	.838	.07
Appearance	3.63	.931	.08
Atmosphere & Environment	3.49	1.035	.09
Location	3.46	1.021	.09
Exhibition	2.93	1.064	.09
Other	2.23	1.265	.11

In terms of choosing duty-free shopping shops, nearly 60% of tourists choose urban duty-free mall in the city, and 40% tourists purchase duty-free goods in duty-free shops at the airport, which is more comfortable for them to leave Hainan island after travelling. Among the purchased duty-free goods, fragrant products/cosmetics accounted for 56.6%, electronic / digital products were 20.9%, and other products were less than 10%. The vast majority of tourists who come to Hainan to buy duty-free goods choose electronic payment, while a quarter of shopping tourists use credit/debit cards of the bank, and cash or other payment methods take up only 4.5%, which indicates that more and more duty-free shopping tourists are used to pay by E-payment. Sixty percent of duty-free shopping tourists come to Hainan to buy duty-free goods for their own use, and only one-fifth of them buy duty-free goods as gift or helping others to purchase, which is consistent with the Chinese government's purpose of developing duty-free shopping industry.

Table 5: Shopping place, goods and their payment and disposal methods(N=67)

	No.	%		No.	%
Shopping Place			Payment type		
Urban Duty-free mall	39	58.2	Credit Card	15	22.4
Airport duty-free store	28	41.8	Cash	2	3.0
The most buying duty-free items			Debit card	3	4.5
Electronic / digital products	14	20.9	E-payment(Alipay)	46	68.6
Cosmetics	38	56.6	Other	1	1.5
Jewelry	3	4.5	Disposal methods		
Watch	2	3.0	Self-use	39	58.2
bag and suitcase	4	6.0	Gift	3	4.5
Healthcare products	4	6.0	Purchasing agent	11	16.4
Other	2	3.0	Other	14	20.9

Shopping motivation of duty-free shopping tourists

Based on previous research results and literature, we selected 24 indicators to measure the shopping behavior of duty-free shopping tourists. Among 24 indicators, 21 indicators' score is equal to or higher than 3.0, and 3 indicators' score is below 3.0, which tells us that domestic duty-free shopping tourists in China affected by COVID-19, have changed their duty-free goods shopping destination from duty-free mall/center of the foreign countries or place to Hainan island duty-free shopping mall or duty-free shops in China, but their desire is not strong enough. The standard deviation of the 24 indicators was higher than 1.0, which indicates that their understanding of the shopping motivation or stimulus for the duty-free shopping tourists is different. Among the duty-free shopping tourists in Hainan, the uniqueness of the shopping destination, the trusted quality of goods and the available type of goods rank the top 3, which has become their most concerned elements. Gaining respect from others, showing off their way of life and showing off their travelling experience have become their least concerned elements for duty-free shopping tourists. The data show that the shopping behavior of duty-free shopping tourists coming to Hainan has changed from conspicuous consumption to practical or effective consumption, and their consumption structure is more rational and reasonable.

Table 6: Description of the shopping motivation of duty-free shopping tourists(N=67)

Motivation project	Mean	Std. dev.	Rank	Motivation project	Mean	Std. dev.	Rank
Uniqueness of the shopping destination	3.64	1.109	1	To experience local/native culture	3.31	1.178	13
Goods of trusted quality	3.63	1.125	2	To Grasp the business trend	3.27	1.051	14
Available type of goods	3.56	1.235	3	To buy the latest electronics/digital products	3.25	1.135	15
Famous brand goods	3.53	1.015	4	To relax and relieve stress	3.22	1.245	16
To purchase goods for me/family	3.51	1.032	5	To purchase goods for my teachers/classmates	3.21	1.351	17
Abundant available goods	3.51	1.065	6	Convenience of transportation	3.16	1.122	18
To purchase goods for my friends/relatives	3.45	1.045	7	To purchase goods for my colleages/bosses	3.11	1.121	19
Perfect shopping atmosphere	3.44	1.061	8	To seek for business opportunities	3.08	1.084	20

To buy suitable cosmetics	3.37	1.009	9	To buy fashionable clothes/jewelry	3.05	1.183	21
Low price goods in the shopping destination	3.36	1.205	10	To get the respect from others	2.91	1.292	22
One part of travelling	3.34	1.204	11	To show off my way of life	2.87	1.229	23
To pursue new fashionable products	3.34	1.151	12	To show off my experience	2.83	1.291	24

Notes: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 9 iterations.

To further identify the hidden motivation behind the shopping behavior, we analyzed the shopping motivation or shopping stimulation factors of the duty-free shopping tourists by factor analysis. The KMO value of 0.679 was used to test the correlation among the motivation project elements, which indicated that the data is suitable for factor analysis.

During the analysis, we used principal component factor analysis to group motivational project elements with similar characteristics. In the analysis, 24 items were analyzed by Varimax Rotation Procedure, which can describe the hidden shopping motivation elements related to the duty-free goods shopping tourists. Elements with eigenvalues higher than 1 were retained for further analysis. Meanwhile, absolute value of factor loading values above 0.3 were considered significant. Therefore, all 24 motivational stimulus elements are retained and listed in Table 7. The data analysis yielded five clean factors with eigenvalues greater than 1, which also explained 60.347% of the variance of the original dataset. The five groups of motivation elements are goods attributes, shopping destination attributes, tourism elements, purpose and social demanding respectively. Reliability was tested with the alpha coefficient of 0.9048 for the five sets of motivation elements domain. The result of analysis showed a moderate correlation between variables and grouped elements, so we considered them to be consistent and stable internally.

Table 7: Principal component factor analysis of shopping motivation(N=67)

Motivation project	Factor loadings					Communalities	Mean
	1	2	3	4	5		
Duty-free goods attributes							
Goods of trusted quality	.845					.825	3.63
Available type of goods	.824					.772	3.56
Famous brand goods	.808					.734	3.53
Abundant available goods	.752					.693	3.51

Perfect shopping atmosphere	.677					.643	3.44
Low price goods in the shopping destination	.571					.724	3.36
Duty-free shopping destination attributes							
Uniqueness of the shopping destination		.882				.502	3.64
To experience local/native culture		.848				.879	3.31
To Grasp the business trend		.680				.822	3.27
Convenience of transportation		.547				.627	3.16
Tourism elements							
To buy suitable cosmetics			.874			.806	3.37
One part of travelling			.746			.845	3.34
To pursue new fashionable products			.673			.775	3.34
To buy the latest electronics/digital products			.577			.713	3.25
To relax and relieve stress			.751			.658	3.22
To seek for business opportunities			.656			.717	3.08
To buy fashionable clothes/jewelry			.655			.585	3.05
Purpose							
To purchase goods for me/family				.711		.574	3.51
To purchase goods for my friends/relatives				.566		.740	3.45
To purchase goods for my teachers/classmates				.784		.730	3.21
To purchase goods for my colleagues/bosses				.643		.786	3.11
Social demanding							
To get the respect from others					.794	.833	2.91
To show off my way of life					.784	.835	2.87
To show off my experience					.551	.673	2.83
Eigenvalue							
	8.072	3.087	2.380	1.780	1.669		

Variance Explained (%)	28.087	11.181	8.657	6.515	6.120		
Accumulative total (%)	29.086	39.466	48.324	55.039	60.347		

Shopping expenditure and income

The results of the regression analysis used to explain the annual income on shopping cost of duty-free goods shopping tourists were not significant ($p > 0.05$). The Pearson's coefficient was 0.442, indicating a significant correlation. We can get the idea that shopping as a high flexible consumption was significantly influenced by the annual income of the duty-free shopping tourists.

Table 8: shopping costs and annual income of duty-free shopping tourists(N=67)

Categories	Statistics	Annual income
Shopping costs	Pearson correlation	.422(**)
	Significance (1-tailed)	.000
	N	67

Note: ** Correlation is significant at the 0.01 level (1-tailed).

Factors behind the shopping behaviour of duty-free shopping tourists

It was found that the shopping behavior of duty-free shopping tourists was mainly influenced by three factors: lack of goods in the original province ($M=3.54$), price balance between the destination province and the original one ($M=3.34$), and payment type ($M=3.22$). However, the degree of influence of these three factors is more limited, as the mean scores of all factors are below 4. In addition, the differences in the perceptions of duty-free goods shopping tourists for these six factors were also more significant as the standard deviation of these factors was higher than 1 (Table 9).

Table 9: Factors behind the shopping behaviour of duty-free shopping tourists(N=67)

Factors	Mean	Std. dev.	Std. Error
Goods could not be bought in my province	3.54	1.109	.09
Low price goods in the duty-free shopping destination	3.34	1.265	.10
The type of payment is diversified	3.22	1.131	.09
Sales and promotions are varied and effective in the duty-free shopping destination	3.06	1.081	.09
Duty-free shops are widely distributed	3.05	1.113	.09
Goods are paid by RMB, no foreign exchange	3.03	1.162	.09

Shopping decision making of duty-free shopping tourists

Regarding the decision making of duty-free goods shopping tourists, the results showed that duty-free goods shopping tourists tended to “decide by themselves what they want to buy” (M=4.06), followed by “consulting family or friends” (M=3.42) and “purchasing duty-free goods only as part of their travel plan” (M=3.05) (Table 10). Thus, the shopping decisions of duty-free shopping tourists were mainly based on their own unique needs and the advice of family and friends, as the standard deviation of both variables was below 1.

Among the seven factors influencing the shopping decision of duty-free shopping tourists, the remaining four factors with an average score lower than 3 are “recommendation of duty-free store sales staff”(M=2.91), “having bought duty-free goods before”(M=2.86), “following others’ duty-free goods shopping”(M=2.51) and “I was not clear”(M=2.49) have less influence on the shopping decision of duty-free shopping tourists. This implies that the shopping decisions that the participating duty-free shopping tourists are able to make independently are less influenced by the surrounding environment and others. It may be because most of the duty-free shopping tourists in this study are predominantly young and middle-aged people and have a higher education level (most of them have postgraduate education experience), and they are more likely to make their own purchasing decisions by collecting information from different sources.

Table 10: Decision making of duty-free shopping tourists(N=67)

Decision making project	Mean	Std. dev.	Std. Error	Rank
I decided whatever I want to buy by myself	4.06	.958	.09	1
I referred to the purchase advice from my family or friends	3.42	.820	.07	2
The purchasing of duty-free goods is only a part of my travel plan	3.05	1.049	.09	3
Recommendation from duty-free shop sales staff	2.91	1.044	.09	4
I bought duty-free goods before	2.86	1.015	.09	5
I followed the other people’s duty-free goods shopping	2.51	1.074	.09	6
I was not clear	2.49	1.216	.10	7

Discussion

Duty-free goods shopping tourism income, occupying more than half of the total tourism income of Hainan Province, plays a pivotal role in the development of tourism industry in Hainan Province. In order to meet the needs of domestic tourists to buy world famous brand products, to reduce the loss of China's foreign exchange, to enable the national people to consume international goods at home, to manage international goods

reasonably and effectively, and to meet the needs of the economic development of Hainan Free Trade Port, the Central People's Government of China and the Hainan Provincial Committee of the Communist Party of China and the Hainan Provincial People's Government have given strong policy, financing, land and other aspects, which have led to the flourishing of China's duty-free industry in Hainan Province.

As the main body of the duty-free industry--duty-free goods shopping tourists should be given special attention. From our survey, we can find that:

1. female tourists are more involved in duty-free shopping,
2. young and middle-aged people range from 18 to 39 are the clustering group for duty-free shopping,
3. shopping tourists are high-level educated and may have higher social status,
4. most shopping tourists belong to China's middle class, with a significant annual income,
5. family size belongs to small and medium-sized families.

The shopping behavior of duty-free shopping tourists is also crucial. We found that duty-free shoppers pay more attention to the quality, brand and price of duty-free goods. The consumption place is mainly the urban duty-free mall in the city, and cosmetics products are the main goods purchased, and they prefer to pay electronically, and they purchase duty-free goods for their own use.

The five groups of motivation elements are goods attributes, shopping destination attributes, tourism elements, purpose and social demanding respectively. It is found that the duty-free shopping tourists shopping behavior mainly influenced by three factors: lack of goods in the original province, price balance between the destination province and the original one, and payment type. The data analysis indicates that duty-free goods shopping tourists tend to "decide by themselves what they want to buy" in their shopping decision.

The shopping behavior of duty-free shopping tourists found in this paper play an important role in informing operators of duty-free shopping mall/store and newly opened duty-free shopping mall/store, making the contribution between the development of the duty-free industry and satisfying the shopping needs of duty-free shopping tourists, as well as providing reference for duty-free shopping mall/store in arranging their activities in the business operation segment.

Because of the small sample size and simple research method, this study is an experimental and preliminary study. In the subsequent study, we will further expand the sample size, construct the shopping behavior structure model of duty-free goods shopping tourists, and adopt better

data statistical methods and research methods to analyze the shopping behavior of duty-free goods shopping tourists in depth.

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