

## LETTER TO THE EDITOR

# In Depth Application of Cognitive Environmental Science in Marketing

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From the perspective of consumers, marketing has made more accurate, diversified and personalized exploration of consumer behavior through the research methods and theories of cognitive environmental science. In order to study the deep application of cognitive environmental science in marketing. An empirical study of the ski resort is conducted one year after the operation. Studies have shown that the constraints of tourists participating in ski tourism can be grouped into nine categories. Sorted by importance are economic expenses, interpersonal communication, skiing sports, external stress, skiing awareness, ski tourism, skiing attribute, ski facility and family constraints.

### I Introduction

Khoo Terh Jing, Radzi bin Ismail, Mohd Wira Mohd Shafiei, Mohamad Nizam Yusof, Salman Riazi Mehdi Riazi, published “Environmental Factors That Affect the Implementation of Green Supply Chain Management in Construction Industry: A Review Paper” on, Issue 107, Pages: 93-104, Article No: e107001, year: 2019, in the article, green supply chain management (GSCM) has important purposes related to environmental performance, such as risk control, meeting marketplace expectations, achieving good commercial enterprise performance and complying with regulations, In this article, From the perspective of consumers, marketing has made more accurate, diversified and personalized exploration of consumer behavior through the research methods and theories of cognitive environmental science. In order to study the deep application of cognitive environmental science in marketing.

After nearly 40 years, cognitive environmental science has made rapid progress and has been widely used in many fields such as society, psychology, economy, culture and commerce. It can be seen that both of them belong to the continuous development and extension of cognitive environmental science in marketing. The basic content of the two focuses is the same, using cognitive environmental science to explore and understand the deep mechanism of consumer psychology and behavior (Butler et al. 2016, Sun et al. 2017).

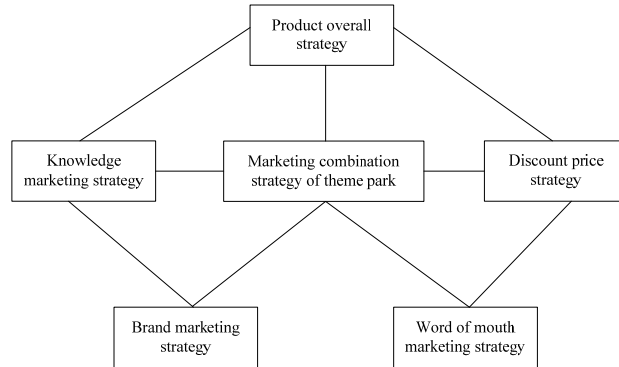
Nowadays, cognitive environmental science has been widely used in marketing and has achieved good results, which is applied to specific business practices, and explore the application and assumption of cognitive environmental science in marketing in the depth (Clayton and Emery 2015).

### II Perspective

The model in cognitive environmental science is used to construct the model of marketing combination strategy, and the application and assumption of cognitive environmental science in marketing are analyzed.

### III Personal View

After the above training, a scientific marketing combination strategy can be obtained, and the marketing combination strategy obtained by the method is shown in Fig. 1. The marketing combination strategy is used to operate a ski resort, and an empirical study on the ski resort operation is performed one year later.



**Figure 1. Marketing mix strategy.**

The questionnaire is designed as a survey of the cognitive constraints of the respondents' skiing. The questionnaire lists a total of 36 factors that may restrict tourists' participation in skiing, and then asks the respondents to agree or not based on their own perceptions. In order to cover as many people as possible who can participate in ski tourism, this article divides the survey into four layers: the first floor is winter tourists, including individual visitors in the main scenic spots where the ski resort is located, as well as group tourists such as travel agencies, hotels and restaurants. The second floor is the residents who regularly and continuously contact with snow and ice and have a certain understanding of ice and snow. They mainly refer to ordinary residents in the area. With the advantage of distance, they are most likely to become ski tourists. The third layer is for skiers, combined with the research purpose of this article, in the survey, it focuses on the investigation in the primary ski area to fully understand the constraints faced by the potential market. The fourth level is the student group. Because skiing is inherently risky, they are more likely to be skiers because of their age advantage. Since there is no definitive data for the proportion of people in each layer to the total population, the four populations are sampled in equal proportions at the time of sampling.

The questionnaire is conducted in three times, from December 2016, January 2017 to March 2017, December 2017 to February 2018 and March 2018. December 2016 is the pre-test phase. January 2017 to March 2017 and December 2017 to February 2018 are the official survey phases of the questionnaire. March 2018 is the supplementary investigation phase. A total of 400 questionnaires are distributed three times. After recovery and review, 333 valid questionnaires are obtained, and the overall effective rate is 83.25%.

The survey process uses a method of random interception access. The survey site mainly consists of three stratified areas, such as snow fields, hotels, and coaches. After special training, the investigators unify the criteria for screening samples, pay attention to the age distribution and gender ratio, and try to maintain a more comprehensive sample selection during the investigation process, which avoids the problem of uneven distribution of samples that may be generated by random sampling (Geuter et al. 2017). Table 1 describes the demographic characteristics of respondents who participated in the survey.

**Table 1. Demographic characteristics of interviewees**

| Variable name | Variable value | Quantity/person | Percentage% |
|---------------|----------------|-----------------|-------------|
|---------------|----------------|-----------------|-------------|

|                       |  |     |       |
|-----------------------|--|-----|-------|
| Age                   | Under 18 years of age                            | 35  | 10.80 |
|                       | 19-30 years old                                  | 194 | 58.30 |
|                       | 31-50 years old                                  | 87  | 26.10 |
|                       | 50 years old and above                           | 17  | 5.10  |
| Sexuality             | Male   | 159 | 47.70 |
|                       | Female   | 174 | 52.30 |
| Education             | Colleges / secondary schools / technical schools | 19  | 5.7   |
|                       | College/undergraduate                            | 546 | 73.9  |
|                       | Master   | 64  | 19.2  |
|                       | Doctor   | 4   | 1.2   |
| Occupation            | Government civil servants                        | 44  | 13.2  |
|                       | Business staff                                   | 72  | 21.6  |
|                       | Worker   | 10  | 3     |
|                       | Teacher  | 17  | 5.1   |
|                       | Housewife  | 3   | 0.9   |
|                       | Retired staff                                    | 2   | 0.6   |
|                       | Professional and technical personnel             | 16  | 4.8   |
|                       | Business, service staff                          | 97  | 29.1  |
|                       | Student  | 69  | 20.7  |
|                       | Soldier  | 2   | 0.6   |
|                       | Other  | 1   | 0.3   |
| Monthly family income | Less than 1999 yuan                              | 86  | 25.8  |
|                       | 2000-4999 yuan                                   | 128 | 38.4  |
|                       | 5000-9999 yuan                                   | 79  | 23.7  |
|                       | 10000-19999 yuan                                 | 26  | 7.8   |
|                       | 20000 yuan and above                             | 14  | 4.4   |

#### IV Analysis

For the understanding of the constraints of ski tourism, the first place is “If you don’t ski, you won’t go to the ski resort” (5.18), and the second is “Ski is a physical exercise” (5.04). It can be seen that on the one hand, the potential market of ski tourism agrees that skiing itself has become the main driving force for skiing sports and tourism. It is different from that the foreignnn on skiers still choose ski resorts, which is in line with the reality of skiing market in China (Dutse and Ayuba 2015, Maruyama and Wu 2015). On the other hand, the main requirements of the main skiing activities in ski tourism are the biggest obstacles that may be involved in the potential market for skiing. The third place is “when skiing, it is expensive to buy ski wear and ski equipment” (4.91), which shows that the

economic expenses involved in skiing tourism has become an important constraint for potential markets. If it can provide low-cost travel, ski and transportation travel packages, it can turn these constraints into marketing opportunities that greatly facilitate the transition of potential market to the real market (Cai et al. 2017).

In order to further understand the relationship between the various variables of ski tourism constraints, and to extract these variables for future analysis, this paper will make the factor analysis for the constraints (Schibli et al. 2017).

**Table 2. Factor analysis of the restrictive factors of the participants in skiing tourism**

| Factor                        | Factor load                                     | Variable name                    |
|-------------------------------|---|----------------------------------|
| Y1Economic cost               | 0.631, 0.709, 0.655, 0.651, 0.682, 0.635, 0.623 | X1, X23, X24, X25, X27, X28, X29 |
| Y2Interpersonal communication | 0.758, 0.790, 0.678, 0.740                      | X14, X15, X16, X17               |
| Y3Skiing                      | 0.710, 0.838, 0.520, 0.758, 0.503               | X5, X6, X7, X8, X9               |
| Y4External pressure           | 0.666, 0.686, 0.673, 0.678                      | X10, X11, X12, X13               |
| Y5Skiing knowledge            | 0.550, 0.747, 0.744                             | X18, X19, X20                    |
| Y6ski touring                 | 0.585, 0.694, 0.672, 0.630                      | X33, X34, X35, X36               |
| Y7Skiing attributes           | 0.752, 0.739, 0.676                             | X2, X3, X4                       |
| Y8Ski Field                   | 0.554, 0.747                                    | X26, X32                         |
| Y9Family constraints          | 0.666   | X21                              |

By observing the results of factor analysis in Table 3, it is found that factor 1 has a high factor load in terms of economic ability and purchasing convenience etc., which reflects the respondents' perception of the economic expenses involved in skiing tourism constraints. Factor 5 has a high factor load in the respondents' view that skiing is an elite event or fashion event, so it is named the "skiing awareness" cognitive factor. Factor 7 has a high factor load in terms of physical strength, time and speed of the ski itself, hence it is named as "skiing attribute". Factor 8 has a high factor load in the ski facility and is therefore named the "Ski facility" cognitive factor. Factor 9 has a high factor load in the family and it is therefore named the "Family restriction" cognitive factor. These nine factors together reflect the respondents' perceptions of the constraints involved in skiing sports and tourism.

Through principal component analysis and factor analysis, in this paper, 33 constraints extracted from 36 constraints are grouped into nine major constraints, namely economic expenses, interpersonal communication, skiing, external pressure, skiing awareness, ski tourism, skiing attribute, ski facility and family constraints.

The constraints faced by the respondents first existed in terms of economic expenses. After careful observation, comparing the respondents' perceptions of "expensive skiing travel fare" and "The large cost of participating in ski tourism", it can be found that the respondents most agree that participating in skiing is the main purpose of ski tourism and is subject to excessive spending on participation in ski tourism. Combined with the previous conclusions, it is not difficult to find that the respondents chose to reduce their concerns by reducing the accommodation conditions. Therefore, due to the current high cost of ski tourism, the potential market is involved in skiing. At the same time, the potential market is equally concerned about the cost of ski fares, but it does not constitute the most important constraint. Therefore, in the face of cost constraint, the survey respondents are most concerned about the overall cost of ski tourism, which greatly affects whether the potential market decides to participate in ski tourism. Then the problem faced by the respondents is the interpersonal communication. This type of concern is also extremely prominent.

#### **IV Conclusion**

Nowadays, cognitive environmental science has been widely applied in market economy forecasting, management decision-making, marketing process control, etc., but there are few studies on the effective application of cognitive environmental science in market research. On the one hand, it can be inspired and learned from the application experience of cognitive environmental science in other fields; On the other hand, in order to solve the marketing problem, it is necessary to design and develop a new research method of cognitive environmental science. Cognitive environmental science has unique performance. With the deepening of applied research in cognitive environmental science, it will surely show great application value in the field of marketing.

#### **References**

- Butler MJR, O'Broin HLR, Lee N (2016) How Organizational Cognitive Environmental science Can Deepen Understanding of Managerial Decision - making: A Review of the Recent Literature and Future Directions. *International Journal of Management Reviews* 18 (4): 542-559.
- Cai L, Chen B, Chen J, Bruton GD (2017) Dysfunctional competition & innovation strategy of new ventures as they mature. *Journal of Business Research* 78: 111-118.
- Clayton NS, Emery NJ (2015) Avian Models for Human Cognitive Environmental science: A Proposal. *Neuron* 86 (6): 1330-1342.
- Dutse AY, Ayuba B (2015) Application of Marketing Mix Strategies in Hospitality Business: A Study of Hotels in Abuja, FCT-Nigeria. *Annals of Physics* 164 (1): 221.
- Geuter S, Koban L, Wager TD (2017) The Cognitive Environmental science of Placebo Effects: Concepts, Predictions, and Physiology. *Annual Review of Environmental science* 40 (1): 167.
- Maruyama M, Wu L (2015) Overcoming the Liability of Foreignness in International Retailing: A Consumer Perspective. *Journal of International Management* 21 (3): 200-210.
- Schibli K, Wong K, Hedayati N (2017) Attending, learning, and socioeconomic disadvantage: developmental cognitive and social environmental science of resilience and vulnerability. *Annals of the New York Academy of Sciences* 1396 (1): 19.
- Sun X, Chen F, Hewings GJD (2017) Spatial Perspective on Regional Growth in China: Evidence from an Extended Neoclassic Growth Model. *Emerging Markets Finance & Trade* 53 (5): 2063-2081.

