Exploring the Relationship between Tourists Types and Travel Path Patterns in Dong-Gang Area of Taiwan

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Abstract

This research focused on the arrangement types of travel nodes, according to 350 valid questionnaires of conducting in-depth interviewing and questionnaires survey of travelers stayed at Dong-Gang area, and examined the relationship between the travel path patterns and the traveler types using cross tabulation analysis. The results are as follow:

1. According to the extent of mindful plan before itinerary and average staying time at a tourist spot, the travelers may be reduced to three types-main attraction visitors, specialists, and explorers, among which main attraction visitors account for the largest proportion of 67 % and specialists account for 18 %, while explorers for 15 % respectively.

2. The assessment of the different properties of the three travel path patterns has some practical implications. It is recognized that travel path patterns here with P1(single point to point, touring point to point) and P2 (circular loop, stem and petal) are more demonstrated by the travelers, accounting for 50% and 44%; while the travel path patterns with P3 (radiating hub) are less in proportion, only accounting for 6%.

3. A cross tabulation analysis was conducted with the travel path patterns and the traveler types. The chi-square test is adopted to verify whether there is any relevance between tourist types and tourist route patterns. The statistical significance (p <.001) shows a significant difference between the two. The cross-tabulation analysis of tourist types and tourist route patterns, main attraction visitors adopt stem and petal pattern (24%) and point-to-point (20%), indicating that in order to visit these attractions, they make effective time and spatial movement; expert tourists adopt the single point-to-point pattern (8%). The prediction between the travel path patterns and the traveler types of Dong-Gang area is the more mindful planned travelers staying for over two days with radiating hub types and the random traveler staying for less than two days with random exploratory types.

Keywords: travel path pattern, traveler type, cross tabulation

1. Introduction

Many scholars indicated that the effort for exploring tourist routes is conducive to tourism planning, for example, analyzing spatial structure of tourists' routes for tourists' needs, provide diverse perspectives to predict tourists' routes and enhance the appeal of tourist attractions. (Oppermann, 1995; Pearce, 1990; Hwang, Fesenmaier, 2003) Zakrisson & Zillinger (2012) using GPS device to investigate tourist's traveling traces, and then with questionnaire interviews defined the tourists to three types-main attraction visitors, specialists, and wanderers. Main attraction visitor, moving frequently, is eager to visit what can be considered the hot spots by advertisements, and specialists focusing on relative narrower space interested in a specific tourist spots with thematic attractions such as shopping or local cuisine, while wanderers obviously enjoy strolling around extensively in all directions, instead of merely focusing on certain tourist spots.

In reality, according to questionnaire survey of this search, we suggested alternative traveler type- explorers, rather than leisurely wanderers, who are mainly self-centered, those who conduct in-depth exploration of the attractions that they are interested in. Therefore, in this research, travelers are divided into three types-main attraction visitors, specialists and explorers.

Tourist routes can be divided into different categories based on different indicators provided by the researcher. Pearce (1995) divided tourist routes into four categories: tourist route mode, origin-destination mode, structural mode and evolution mode. Flognfeldt (1999) proposed four patterns of tourist routes: Day trips, Resort trips, Base holiday trips and Round trips. Based on the study in Branson, U.S.A., Stewart, Vogt (1997) sorted out problems concerning tourist routes that had not been solved by LCF (1933); that is, the difference between regional tourist route patterns and trip chained patterns.

In contrast to the above scholars' tourist route patterns that set the residence (home) as the starting point, Lew & McKercher (2006) proposed the tourist route pattern that set the accommodation as the starting point, and divided it into three types of P1, P2 and P3. McKercher & Lau (2008) proposed another way of categorizing tourist route patterns, and grouped 78 different types of tourist paths into 11 route types, but the classification is too complicated, which could not be well applied to the simple tourist paths in this study. Hence, the classification method of Lew & McKercher was adopted in this study.

Table 1 Classification for Travel Path Pattern

Year	Travel Path Pattern
Mings、Mchugh (1992)	Direct route, Partial orbit, Full orbit, Fly/Drive
Lue、Crompton & Fesenmaier (1993)	single destination, en route, base camp, regional tour, trip chained
Pearce（1995）	tourist route mode, origin-destination mode, structural mode ,evolution mode
Oppermann (1995)	Single destination, Base camp, Stop-over pattern, Full loop, Destination area loop, Open jaw loop, Multiple destination areas loop
Stewart &Vogt (1997）	
Flognfeldt (1999)	Day trips,Resort trips,Base holiday trips,Round trip
Lew & McKercher （2006）	P1,P2,P3

Study Area

The resorts in Dong-Gang area include Pen Bay National Leisure Zone and Liu Qiu Island. Hot tourist spots in Dong-Gang area include natural tourist resources and cultural tourist resources, the former including Marine Leisure District and Qing-Zhou Recreation District, while the latter including the Overseas Chinese Fish Market, Haizhiqiu, sea food Street, Dong-Long temple, Zhen-Hai temple and Circum-baycycling track. Visitors can take the yacht around the Pen Bay to enjoy the mangrove and go to the Oyster Shell Island to learn about oyster cultivation, which will become the world-class water sports & resort base in the future. Liu Qiu Island is the only coral island in the outlying islands of Taiwan. The island is rich in landscape resources, bizarre rocks and stones, intertidal zones with rich ecological significance, brilliant Ryukyu sunset glow, bright stars and fireflies at night, and a variety of water activities and snorkeling.

2. Methodology

2.1 Data Collection

In this research, in-depth interviews were conduct to explore the characteristics of tourists' travel activities and classify tourists into different types. Restricted by respondents' willingness to be interviewed, convenience sampling rather than random sampling is adopted. However, disputes may arise from the convenience sampling--the representativeness of samples. As a result, in order to increase the

availability of the samples, results obtained via the questionnaire survey spanning 2012 and 2013 are designed to indicate tourists' feelings towards their travel in Dong-Gang area within this period rather than the average travel conditions of each month or the whole year. In-depth interviews and questionnaire surveys were conducted in those attractions frequented by tourists in Dong-Gang area such as the Overseas Chinese Fish Market, Lamay Island, Dong-Long temple and Marine Leisure District. The questionnaire contains three parts--tourist properties, characteristics of tourists' activities and tourist attractions, and it has been revised according to experts' advice.

2.2 Data Annalysis

This research used descriptive statistical method to analyze different sample tourists' properties, which is tested by chi-square. Tourist types are taken as independent variables, while tourist route patterns as the dependent variable, both of which are then subjected to the correlation analysis. Variables in this research, which are originally class variables, are turned into nominal variables for the chi-square test analysis. The statistical test, however, firstly verifies whether significant difference variables exist in various dimensions, tourist routes and tourist node attributes, and further probes into the frequency distribution of variables by means of cross tabulation.

In this research, chi-square test is used to examine sample differences of visitors' properties. More than 80% of the expected frequency of each cell in the chi-square test should be bigger than 5, or obvious deviation will show in the results. When the number of cells is too small, there are solutions available such as cell mergence, increase of samples, and elimination of samples and correction of formula. Therefore, in order to improve the accuracy of the chi-square test, in case of insufficient frequencies of some options, the researcher merges similar options, and deletes those options with insufficient frequencies and little value that can not be merged.

3. Results

3.1 Three Types of Tourists in Dong-Gang area

According to the extent of mindful plan before itinerary and average staying time at a tourist spot, the travelers may be reduced to three types-main attraction visitors, specialists, and explorers, among which main attraction visitors account for the largest proportion of 67 % and specialists account for 18 %, while explorers for 15 % respectively based on questionnaire survey.

Table 1 Three Types of Tourists in Dong Kong area

Tourists Types	Samples (N=340)	Percentage (%)
Main attraction visitors	226	67%
Specialists	61	18%
Explorers	53	15%
Total	340	100%

3.2 Travel Path Patterns of tourists in Dong-Gang area

It is recognized that travel path patterns here with P1(single point to point, touring point to point) and P2 (circular loop, stem and petal) are more demonstrated by the travelers, accounting for 50% and 44%; while the travel path patterns with P3 (radiating hub) are less in proportion, only accounting for 6%.

Table 2 Travel Path Patterns of tourists in Dong-Gang area

	Travel Path Patterns	Samples (N=340)	Percentage (%)	Sub-Total Samples	Sub-Total Percentage
P1	Single Point-to-Point(P1a) Touring Point-to-Point(P1b)	82 88	24% 26%	170	50%
P2	Circular Loop(P2a)	47	14%	150	44%
	Stem and Petal(P2b)	103	30%		
P3	Radiation Hub(P3b)	20	6%	20	6%

3.3 The relationship between tourist types and travel path patterns

The chi-square test is adopted to verify whether there is any relevance between tourist types and tourist route patterns. The statistical significance (p <.001) shows a significant difference between the two. Table 3 shows that the cross-tabulation analysis of tourist types and tourist route patterns, main attraction visitors adopt stem and petal pattern (24%) and point-to-point (20%), indicating that in order to visit these attractions, they make effective time and spatial movement; expert tourists adopt the single point-to-point pattern (8%), indicating that they would concentrate in relatively narrow regions and more often than not likely to explore special or themed attractions, e.g. to pay respects in Dong-Long temple, buy fish in the Overseas Chinese Market or probably join in an event in the Marine Leisure District; explorers adopt the single point-to-point pattern (6%). It is worth mentioning that compared with the other two types, the radiation hub pattern accounts for a relatively large proportion (13%) in this type because of the

explorers' exploration needs as betrayed by their tourist routes: high degree of mobility, and visit to attractions which are less known and densely distributed. So they need accommodations to relax and prepare for the next visit to nearby tourist attractions.

In terms of travel path patterns, single point-to-point, touring point-to-point, circlar loop, stem and petal are mainly adopted by main attraction visitors (respectively 10%, 20%, 10%, 24%), while specialists, explorers are mainly adopted single point-to-point (respectively 8% and 6%). However, the latter also accounts for a large proportion in the selection of other types of tourists. It is observed that visitors adopting the single point-to-point pattern intend to stay as long as possible, so this pattern is at the same time adopted by a large number of specialists and explorers. The reason why the tourists in this area didn't adopt radiation hub type need to be futher explored, and we suggested in-depth interview to realize the reason is required.

Table 3 Cross tabulation analysis between tourist types and travel path patterns

Tourist Types		Travel Path Patterns					Sub-Total
		Single Point to Point	Touring Point to Point	Circlar Loop	Stem and Petal	Radiation Hub	
Main Tourist visitors	Tourists number	35	68	32	82	9	226
	Percentage	**10%**	**20%**	**10%**	**24%**	3%	67%
Specialists	Tourists number	26	12	8	11	4	61
	Percentage	8%	4%	2%	3%	1%	18%
Explorers	Tourists number	21	8	7	10	7	53
	Percentage	6%	2%	2%	3%	2%	15%
Total	Tourists number	82	88	47	103	20	340
	Percentage	24%	26%	14%	30%	6%	100%

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