論文

Regional Differences of Chinese Passengers Satisfaction in Incheon International Airport

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권역차이에 따른 중국인 승객의 인천공항 이용 만족도

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ABSTRACT

1983년에 중국 정부가 자국민의 해외 여행을 허가한 이래, 중국의 아웃바운드 해외 관광 시장은 비약적으로 발전하였다. 대한민국은 이러한 현상의 최대 수혜 국가 중 하나가 되었으며, 항공운송 분야에 있어 특히 혜택을 보았다. 현재 인천국제공항의 전체 이용객 중 23.9%가 중국인이며, 추후에도 중국여객들이 인천국제공항의 주요한 고객으로 남을 것으로 전망된다. 중국의 광활한 영토와 13억이 넘는 인구를 고려할 때, 중국을 하나의 시장으로만 보는 것이 아니라 여러 지역들이 모인 집합체로 바라볼 필요성이 제기된다. 이렇게 할 시, 각 지역마다 다른 중국여객들이 공항 이용에 있어 보이는 태도와 행동양상의 차이점을 파악하여, 차별화된 서비스 제공의 밑바탕이 될 수 있다. 이를 통하여 중국여객들의 인천국제공항 이용 시 고객 가치와 만족도의 향상에 기여할 수 있다. 본 연구는 중국 정부가 경제, 사회 등의 요소를 고려하여 공인한 방식대로 중국 전체를 다섯 개의 권역으로 분할하여 중국여객들이 인천국제공항 이용에 있어 느끼는 만족도를 조사하고자 한다. 특별히 면세점 이용과 관련된 만족도에 중점을 두고자 한다. 권역별로 지니는 차이점을 분석하여, 권역별로 상이한 서비스 전략을 추진하기 위한 전략적 방향성을 제시한다.

Key Words : 지역 분할(Regional Segmentation), 인천국제공항(Incheon Int'l Airport), 서비스(Service), 중국여객 행동(Chinese, Passenger Behavior)

I. Introduction

Ever since the Chinese government allowed cross-border travel of its citizens in 1983, the Chinese outbound travel market has grown at an explosive pace. In 2014 the total number of Chinese outbound tourists was one hundred seven million, making it the single greatest outbound travel market.

Being sited next to China, the Republic of Korea has been one of the greatest beneficiaries of this phenomenon. The number of Chinese tourists visiting Korea, so-called "yo-u-ker"s increased steadily since 2000, and in 2014 alone one million one-hundred thirteen thousand "yo-u-ker"s visited Korea. With an estimation that by the year 2018 ten million Chinese tourists will visit Korea [1], the importance they have in the Korean tourism and air travel market will become even more significant.

The most prevalent mode of travel of these Chinese tourists heading torwards Korea is air travel, arriving at airports such as Incheon

International Airport (IIA). In 2014 more than ten million Chinese citizens used IIA, which makes up 23.9% of the total passengers who used IIA last year [2]. As a huge percentage of passengers using IIA are Chinese, the following study draws on the importance of implementing a systematic approach to understand in which ways these passengers act, and what their needs are [3].

Most of all, considering the fact that China consists of a land mass of more than 9 million square kilometers and a population greater than 1 billion, this study considers the importance of seeing China not just as a single market, but a collection of various regions with differently acting populations. Hence this study divided mainland China into five regions. With this division, this study focused on how passengers from different regions think about when using IIA's service, and what characteristics the Chinese passengers show in terms of overseas tourism and airport usage. If seen that there is a distinction among the passengers depending on each region, the goal of this study is to interpret the differences depending on each region.

Finally, with the obtained results, this study aims at providing a strategic recommendation in order to successfully correspond to Chinese passengers using IIA.

II. Regional Division of China

China consists of 23 provinces, 5 autonomous regions, 4 municipalities and 2 special administrative regions. Due to the inconvenience and complexity of seeing all these regions individually, the Chinese government groups administrative regions under the category of 7 regions [4]. These greater regions are used for the management of economic development initiatives. One individual region consists of provinces, autonomous regions or cities that share similar characteristics geographically, economically, culturally, and etc...

The seven regions discussed above are North China, Northeast China, East China, South China, Southwest China, Northwest China, and Western Region. North China is located in the North-Eastern region, and includes Beijing and Tianjin. Northeast China is at the Far East region, and includes Shenyang. East China is located below North China and includes Shanghai. South China is at the southernmost part and includes Guangzhou. Northeast China is located in central China, and includes Chongqing. Southeast China is southern of Northeast China, and includes Chengdu. The West Region is located at the far West of China, and includes Tibet.

For the purpose of accomplishing this study, it is necessary to look at Chinese passengers in terms of air travel and airport usage. Hence there was a change of the regional organization. The Western Region was eliminated due to political and economic circumstances, and a low number of Western Region residents visiting Korea, leading to trouble in acquiring samples required for this study.

Northeast China and Southeast China were consolidated in this study into Northwest/Southwest China due to the facts that the population of the two regions individually is rather small and that the number of direct flights to IIA are limited, which causes difficulties in collecting samples otherwise. Moreover, the fact that the Chinese government includes these two regions in the "Western Grand Development" project highlights that the two regions are economically in a similar position,

As mentioned above, the following study shortly divided China into five regions: Northeast, North, East, South and Southwest/Northwest China.

III. Research Construct

3.1 Research Methodology

The following study is an empirical study focusing on differences among the 5 regions in terms of choosing Korea as a tourism destination and in the usage patterns and needs regarding airport service.

3.2 Survey Construct

For positive analysis of the following research, a survey was conducted on Chinese passengers waiting to board flights in the airside region. Surveys were conducted on the third and fourth weeks of September 2015, in front of boarding gates of flights directly headed to representative cities in the five regions. They were conducted 15~30 minutes before boarding began, allowing passengers to be surveyed after they have finished using concierge services. Between 1 to 4 cities in each region have been chosen as representative cities of each region, based on the frequency of direct flights to/from IIA. Surveyors incorporated were those who could fluently communicate in Chinese.

The contents of the survey provided to Chinese passengers at IIA for the following research are as follows:

A) Airport Choice Factors (Purpose of visit, purpose of airport choice, source of airport -related information, etc...)
B) Airport Usage Satisfaction Rate (Arrival/ Departure Service, Duty-Free Satisfaction, etc.)
C) Intention of Airport Re-Visit (Intention of IIA Re-Visit, Intention of IIA Recommen-dation to others, etc.)
D) Population Characteristics (sex, age, place of residence, income, etc.)

The answers were in the order of 'Highly satisfied' (1), 'Satisfied' (2), 'Normal' (3), 'Unsatisfied' (4) and 'Highly Unsatisfied' (5). The total number of survey sheets that were retained was 850. The number of surveys retained by region was 236 for North-East China, 151 for North China, 194 for East

China, 140 for South China and 129 for NorthWest/SouthWest China.

For questions regarding purpose of visit, air ticket reservation method and other questions that lead to answers that cannot be scaled, a nominal scale was used. For questions such as departure/arrival service, which can be scaled, a 5-point likert scale was used.

For statistical analysis of the following study SPSS version 22.0 was used. The methodology used was the Analysis of Variance (ANOVA), Levene's Test for Equality of Variances, and Scheffe's Analysis.

IV. Empirical Research
4.1 Characteristics of Samples

In order to directly survey passengers who have used services at IIA, the survey was undertaken at the airport. Considering that the survey asks questions regarding both arrival and departure services, surveys were conducted at the airside departure area.

The general characteristics of the 850 samples is as follows: in terms of age, 2% were less than 20 years old, 47% were 20~29 years old, 34% were between 30~39, 12% were 40~49, 4% were 50~59 and 1% were 60 or older. It can be seen that passengers in their 20~30s are the main users of IIA. Looking at monthly earningss, 16% of the total passengers earned less than 7,000 yuan a month, 28% earned 7,000~9,000 yuan per month while 56% earned more than 9,000 yuan per month. Hence it can be presented that a majority of Chinese passengers entering Korea are affluent [6].

4.2 Empirical Analysis

4.2.1 Analysis of Variance

In total, 68 questions were asked per questionnaire. Out of these 68 quesitons, 50 answers were measured on an interval scale. The remaining 18 questions were either on a nominal scale, or were open response

Table 1. ANOVA Rejected Variables

		Sum of Squares	df	Mean Square	F	Sig
re-use	between groups	3.322	4	.831	1.958	.099
	within groups	358.382	845	.424		
	total	361.705	849			
recom	between groups	2.427	4	.607	1.229	.297
	within groups	416.943	845	.493		
	total	419.369	849			
Acheck	between groups	1.256	4	.314	.515	.725
	within groups	515.244	845	.610		
	total	516.500	849			
Owifi	between groups	6.565	4	1.641	1.807	.125
	within groups	767.604	845	.908		
	total	774.169	849			

Table 2. Scheffe's Analysis for DFq

	(I) Region	(J) Region	(I-J)	SE	sig. level	95% conf. inter	
						lower	higher
DFq	Northeast	NW/Sw	−.37111*	.06931	.000	−.5851	−.157
		South	−.31247*	.06753	.000	−.5209	−.104
		East	−.04144	.06092	.977	−.2295	.1466
		North	−.01335	.06665	1.000	−.2191	.1924
	NW/SW	NE	.37111*	.06931	.000	.1571	.5851
		South	.05864	.07726	.966	−.1799	.2971
		East	.32967*	.07156	.000	.1088	.5506
		North	.35776*	.07649	.000	.1216	.5939
	South	NE	.31247*	.06753	.000	.1040	.5209
		NW/SW	−.05864	.07726	.966	−.2971	.1799
		East	.27103*	.06983	.005	.0555	.4866
		North	.29912*	.07488	.003	.0680	.5303
	East	NE	.04144	.06092	.977	−.1466	.2295
		NW/SW	−.32967*	.07156	.000	−.5506	−.10
		South	−.27103*	.06983	.005	−.4866	−.056
		North	.02809	.06898	.997	−.1849	.2410
	North	NE	.01335	.06665	1.000	−.1924	.2191
		NW/SW	−.35776*	.07649	.000	−.5939	−.122
		South	−.29912*	.07488	.003	−.5303	−.068
		East	−.02809	.06898	.997	−.2410	.1849

questions. Hence the 50 variables that can be used to attempt ANOVA were used in the statistical analysis. These 50 variables can be classified into the following: 1. Airline re-use/recommendation, 2. Arrival Service related satisfaction, 3. Departure Service related satisfaction, 4. Other Service related satisfaction, 5. Duty Free Service related satisfaction, 6. Airport re-use/recommendation.

ANOVA was attempted on the 50 variables with a significance probability of 5% (0.05).

According to the results, 46 variables turned out to be having similar variance, while 4 variables failed to pass ANOVA. This means that there was a difference in variance. The 4 variables were intention of airline re-use (re-use), intention of recommendation of airline (recom), satisfaction regarding immigration processing waiting time (Acheck), and airport Wifi usage (Owifi). As these all had a significance level above 0.05, these were chosen to be left out for further analysis.

Table 3 Scheffe's Analysis for DFt

	(I) Region	(J) Region	(I–J)	SE	sig. level	95% conf. inter	
						lower	higher
DFt	Northeast	NW/Sw	−.36047*	.07174	.000	−.5819	−.1390
		South	−.27143*	.06989	.005	−.4872	−.0557
		East	.02764	.06305	.996	−.1670	.2223
		North	.06164	.06899	.939	−.1513	.2746
	NW/SW	NE	.36047*	.07174	.000	.1390	.5819
		South	.08904	.07996	.871	−.1578	.3359
		East	.38810*	.07406	.000	.1595	.6167
		North	.42211*	.07917	.000	.1777	.6665
	South	NE	.27143*	.06989	.005	.0557	.4872
		NW/SW	−.08904	.07996	.871	−.3359	.1578
		East	.29907*	.07227	.002	.0760	.5222
		North	.33307*	.07750	.001	.0938	.5723
	East	NE	−.02764	.06305	.996	−.2223	.1670
		NW/SW	−.38810*	.07406	.000	−.6167	−.1595
		South	−.29907*	.07227	.002	−.5222	−.0760
		North	.03401	.07139	.994	−.1864	.2544
	North	NE	−.06164	.06899	.939	−.2746	.1513
		NW/SW	−.42211*	.07917	.000	−.6665	−.1777
		South	−.33307*	.07750	.001	−.5723	−.0938
		East	−.03401	.07139	.994	−.2544	.1864

Table 4 Scheffe's Analysis for DFtp

	(I) Region	(J) Region	(I–J)	SE	sig. level	95% conf. inter	
						lower	higher
DFtp	Northeast	NW/Sw	−.32729*	.07499	.001	−.5588	−.0958
		South	−.21029	.07306	.083	−.4358	.0152
		East	−.07759	.06591	.847	−.2811	.1259
		North	.05282	.07211	.970	−.1698	.2754
	NW/SW	NE	.32729*	.07499	.001	.0958	.5588
		South	.11700	.08358	.743	−.1410	.3750
		East	.24970*	.07741	.035	.0107	.4887
		North	.38011*	.08275	.000	.1247	.6356
	South	NE	.21029	.07306	.083	−.0152	.4358
		NW/SW	−.11700	.08358	.743	−.3750	.1410
		East	.13270	.07554	.544	−.1005	.3659
		North	.26311*	.08101	.033	.0130	.5132
	East	NE	.07759	.06591	.847	−.1259	.2811
		NW/SW	−.24970*	.07741	.035	−.4887	−.0107
		South	−.13270	.07554	.544	−.3659	.1005
		North	.13041	.07463	.549	−.1000	.3608
	North	NE	−.05282	.07211	.970	−.2754	.1698
		NW/SW	−.38011*	.08275	.000	−.6356	−.1247
		South	−.26311*	.08101	.033	−.5132	−.0130
		East	−.13041	.07463	.549	−.3608	.1000

With the remaining 46 variables, Levene's Test for Equality of Variances was attempted. For Levene's Test as well, a significance probability of 5% (0.05) was used. According to the

results, 15 variables were found out to be having a significance level lower than 0.05. These variables include overall satisfaction for Arrival service, Departure Luggage check-in service, Departure security check waiting time satisfaction, Duty Free location information usage satisfaction and more.

These variables failed to achieve equality of variance. Welch's test cannot be used in this instance as the total number of samples exceeds 200. Hence, in the following study the 15 variables which have failed to pass Levene's test were eliminated from further investigation. This leaves 31 variables in total, which are able to proceed to Scheffe's Analysis.

Scheffe's analysis was attempted on the remaining 31 variables to find out which regions showed different attitudes towards the variables. The variables that were considered include satisfaction of the Chinese language information center usage, satisfaction of departure lounge usage and more.

Out of these, the variables linked to duty free use turned out to be the ones having the most investigative value. A total of 11 variables related to duty free came to be suit for Scheffe's analysis, and their results were the most dynamic. Meanwhile, variables such as satisfaction of variety of concierge food and satisfaction of airport signage showed only 2 regions having differences with each other (only North and South China showed a difference for satisfaction of airport signage).

However the variables relating to duty free usually had 2 to 3 regions all being different from each other, and the degree of difference was greater than the results for non-duty free variables. Hence the observation became focused more on the 11 variables. For focused examination, 3 variables that showed the most dynamic results will be examined.

The variables are as follows: satisfaction of merchandise price display, price and quality of merchandise (DFq), variety of merchandise, operating hours (DFt), dealer's knowledge of merchandise, dealer's fluency in Chinese language, dealer's degree of friendliness and swiftness, duty free pick up location information, duty free pick up process and waiting time (DFtp), duty free sales promotions, duty free promotional gifts and coupon usage.

Looking at the satisfaction of quality and price of duty free merchandise, the difference between regions was remarkable. Passengers from Northeast China differed from those from Northwest/Southwest China as well as South China by a significance level of 0.00. Passengers from South China differed from those from East China and North China by a significance level of 0.005 and 0.003 each. Observing the difference between means (I-J), it can be seen that when compared with other regions, Northwest/Southwest China and South China passengers showed positive results. Hence passengers from these areas are on average more unsatisfied with the quality and price of duty free products.

Observing Scheffe's analysis results for the satisfaction of duty free shop operating time, passengers from Northwest/Southwest China and South China seemed to be the most dissatisfied. Both regions had higher averages when compared to East China and North China passengers.

The results for satisfaction of the duty free pick up process and waiting time turned out to be similar to that of previous variables. Passengers from Northeast and North China were more satisfied than passengers from Northwest/Southwest and South China.

V. Conclusion

As the number of variables that were examined in the following study marked 50, a screening process was required. This was done through leaving out the variables that failed to pass ANOVA, Levene's test and Scheffe's analysis, and then focusing on the variables which showed the greatest difference between regions.

As a result the difference between satisfaction levels of passengers using duty free shops at

IIA was observed, according to regional differences.

The results show that the level of that satisfaction passengers have against various aspects of duty free use show a somewhat similar pattern. Passengers from Northeast and North China on average were more satisfied with variables related to duty free such as price and quality of merchandise, operating hours duty free pick up process and waiting time. On the other hand, passengers from Northwest/Southwest China and South China tended to be more unsatisfied with these aspects [7].

The results of this research can be used for further investigation of the way Chinese passengers from different regions act in accordance to different aspects of duty free at IIA.

In order to enhance the overall level of satisfaction of Chinese passengers, it is essential to improve the results of Northwest/Southwest and South China passengers first. Therefore further research needs to be taken in order to find out the reason that these passengers are less satisfied.

The regions which had the most positive results overall in terms of satisfaction were North and Northeast China. These two regions are geographically the closest from IIA, while Northwest/Southwest and South China are the furthest away. Due to the geographical proximity and economic and cultural integration between northern Chinese cities such as Beijing, Tianjin, Shenyang and Seoul, much focus is given on flights from Incheon to these regions. There are more than 20 daily flights between Incheon-Beijing alone [5], while there are only 1 to 2 daily flights to cities such as Chengdu, which is located in Southwest China. This gives passengers from North and Northeast China more flight times to choose from, giving them time to use duty free service with a comparatively more degree of freedom.

Moreover, the Chinese used in signage and information desks at IIA are in standard Mandarin, which is the language used in North China. Many passengers from other parts of China might have problems in terms of communication at IIA due to this. As Beijing and the North China region is the one that sets the standard for language and culture, it can be assumed that the service provided by IIA is focused on the standards that passengers from the Northern region are more accustomed to.

The above assumption cannot fully explain the reason that passengers from Northwest/Southwest and South China are less satisfied with all aspects. Therefore, it is recommended that further efforts be taken by the airport authority of Korea to increase communication with passengers from these regions in the form of promotion sessions in collaboration with regional tourist agencies, in-depth surveys on the passengers, and more.

Reference

[1] Samsung Securities Holdings (2014), "Rise of the third Korean inbound boom"

[2] http://www.businesspost.co.kr/news/articleView.html?idxno=8283

[3] Gun-Hee Choi, Rae-Don Kang, Jung-Yoon Yoo, Sung-Sik Park (2015) "The Preceding Factors and Eventual Factors for Double-Sided Innovation of Airport Concierges", Journal of The Korean Society for Aviation and Aeronautics 23(3)

[4] http://www.china.org.cn/english/feature/38436.htm

[5] http://www.mckinsey.com/insights/consumer_and_retail/mapping_chinas_middle_class

[6] http://www.airport.kr/pa/ko/d/1/2/1/index.jsp?AIRPORT_CODE=PEK&GUBUN=1

[7] Kyung-Pyo Ko (2015) "Comparative Study of Service Strategies and Consumer-Orientation Between Passengers and Airline Service Employees", 2015 Fall Symposium, The Korean Society for Aviation and Aeronautics