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Preferences of business travelers regarding frequent flyer program benefits

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PREFERENCES OF BUSINESS TRAVELERS REGARDING
FREQUENT FLYER PROGRAM BENEFITS

A Thesis

Presented to

The Faculty of the Department of Recreation and Leisure Studies

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Ya-Han Hsieh

December 2007

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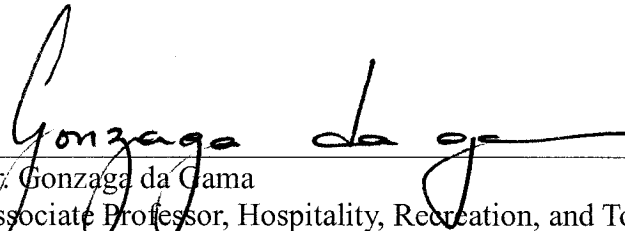
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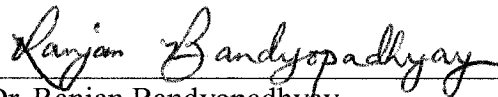
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ABSTRACT

PREFERENCES OF BUSINESS TRAVELERS REGARDING FREQUENT FLYER PROGRAM BENEFITS

by Ya-Han Hsieh

This study examined preferences of business travelers who travel between the United States and countries in Asia regarding frequent flyer program benefits. A quantitative research approach with two stages was utilized. Stage One focused on the selection of the six most important benefits that business travelers consider in joining a frequent flyer program. These benefits were then used in the conjoint design of Stage Two to investigate preferences of business travelers regarding frequent flyer program benefits. The results of the conjoint analysis indicated that business travelers gave the highest preference to the following benefits in order of importance: upgrade with lower mileage limit, free ticket with lower mileage limit, priority boarding, priority reservation with lower level membership, mileage earned from airline partners, and VIP lounge with lower level membership.

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CHAPTER 1

Introduction

It is essential for a successful business to take customer preferences into consideration when it makes business decisions. Tybout and Hauser (1981) proposed a consumer choice model that shows that individual perceptions determine preferences, which in turn determine choice. According to this model, in order to influence consumer choices, it is crucial to understand consumer preferences. However, when it comes to studies about airline services, this has not been the case. Weber (2005) stated that unfortunately airline service studies have ignored customer preferences, despite the fact that customer preference would influence buying choice (Tybout & Hauser, 1981). If the airline industry does not take customer preferences into account, it will be unable to build customer loyalty in the long-run (Weber, 2005). As a result, it is recommended that airlines should classify the benefits of frequent flyer programs based on different segments rather than offering all benefits to every customer, because different types of travelers have different preferences pertaining to the benefits of frequent flyer programs (Suzuki, 2003).

Due to the development of technology and global economies, countries in Asia

have more business interactions with Western countries (Asia Silicon Valley Connection, 2007). As a result, there is a tremendous increase in business travel. Business travelers usually fly more than other travelers (Swarbrooke & Horner, 2001); hence, several airlines are trying to tap into this increased market segment. One such avenue is via the frequent flyer programs. Several US airlines have successful frequent flyer programs. Since frequent flyer programs are shown to have positive influences on travelers' choices (Hsu & Wen, 2003; Moreno, 2006; Suzuki, 2004), airlines in Asia have followed suit and launched their own frequent flyer programs (Mak & Go, 1995). Nevertheless, Moreno (2006) suggested that business travelers had distinct preferences about these benefits when compared to leisure travelers. If the airlines desire to retain customers, managing customer preferences should be a major priority for the airline industry.

Since the majority of the airline service studies have ignored customer preferences, the objective of the current study was to investigate the preferences of business travelers about frequent flyer program benefits.

Statement of the Problem

Although frequent flyer programs are a successful marketing strategy for the airline

industry, they also present some distinct shortcomings. According to “Funny Money” (2005), the many unredeemed miles customers accumulated in these programs caused airlines difficulty in forecasting income because airlines were unable to estimate when customers would want to redeem the miles. To negotiate this problem, airlines typically reduced the number of free seats and increased the required mileages for free ticket, which resulted in an increase in customer dissatisfaction and customer complaints (“Funny Money”). Therefore, some authors have argued that airlines should invest in customer service values and improve customer experiences instead of loyalty programs such as frequent flyers (Great China Customer Relationship Management, 2006; “Major US Airlines Cannot Count on Customer Loyalty,” 2006). However, Goh and Uncles (2003) pointed out that extending product and service values can aid in enriching customer loyalty. Frequent flyer programs could contribute in this effort. These programs often include various customer services, such as priority services, differences in the manner of mile redemption, and extension of services by airline partners. The authors argued that a better approach may be for airlines to improve the values or the benefits of the frequent flyer programs rather than revoke them, and attempt to make the benefits of frequent flyer programs an excellent customer experience (Goh & Uncles).

While many studies have examined the proliferation of frequent flyer programs, these studies have mainly focused on the profits of airlines. There has been limited attention paid to customer preferences (Goh & Uncles, 2003), as airlines studies have generally ignored customer preferences (Weber, 2005). In addition, there is little research that focuses attention on customer preferences as it pertains to frequent flyer program (Goh & Uncles, 2003). Furthermore, there are no studies that examine preferences of business travelers about frequent flyer program benefits. However, customer preference plays a vital role in marketing strategy (Goh, 2003; Suzuki, 2003; Weber, 2005). The airline industry has increased 20% to 30% business by implementing frequent flyer programs (Chin, 2002). A review of literature indicates that it is important to improve attractive frequent flyer program for different types of travelers (Suzuki, 2003). Truitt and Haynes (1994) also expressed that airlines should listen to their customers' preferences in order to discover customers' potential needs. Therefore, if airlines want to continue to implement frequent flyer programs to build customer loyalty and obtain the maximum benefits, taking into consideration and understanding the customer preferences about frequent flyer programs advantages is very important, which is the scope of the current investigation.

Purpose of the Study

The purpose of this study was to examine the preferences of business travelers about the benefits of frequent flyer programs. The main research question addressed by the current study is: what are the preferences of business travelers regarding the benefits of frequent flyer programs?

Design of the Study

This study employed a quantitative research method, using surveys to collect data pertaining to customer preferences of the benefits of frequent flyer programs. Data was analyzed by using Statistical Package for Social Sciences (SPSS) version 11 software with conjoint analysis.

Since Hong Kong, South Korea, Taiwan, and Singapore have had a successful long-term economic strategy in Asia, coupled with the strategic location of San Francisco Bay area due to the technology and tourism sector, this study focused on the airlines servicing the above countries from San Francisco. These airlines included American Airlines (AA), Continental Airlines (CO), Delta Airlines (DL), United Airlines (UA), China Airlines (CI), EVA Air (BR), Cathay Pacific (CX), Singapore Airlines (SQ), Korean Air (KE), and Japan Airlines (JAL).

The project of the International Air Transport Association (IATA) forecasted that by 2014, over half of all passengers will travel by air within the Asia Pacific region (Hooper, 1997). In addition, San Francisco is an important international airport in California, which is the number one tourism destination in the United States (California Travel and Tourism Commission, 2004), while the Silicon Valley has a crucial economic relationship with Asian countries (City of San Jose, 2007). Therefore, the San Francisco airport plays an important role in connecting countries in Asia with the United States.

Significance of the Study

A review of literature indicated a gap pertaining to the frequent flyer program benefit preferences of business travelers. Given the increase in business travel, the current investigation will be able to address this gap in knowledge. The results of this study will be able to be generalized to the airline industry because this study investigated the preferences of business travelers about frequent flyer program benefits. Truitt and Haynes (1994) indicated that airlines should focus on their customers' preference in order to discover their customers' potential needs. Thus, results of this study will help the airline industry to customize its frequent flyer programs to differentiate them from competitors and make them more attractive to their customers. To do so, it is important

to improve attractive frequent flyer programs for different types of travelers (Suzuki, 2003).

Definitions of Terms

(1) Frequent flyer programs: These programs employ a mileage-based scheme. Some programs have no joining fee, but some programs do. Travelers can be rewarded by accumulating mileage by flying, but there are many other ways for them to do so depending on the partners of airlines, such as car rental companies, hotels, telephone services, or restaurants (Mason & Barker, 1996; Suzuki, 2003; William, Rex, & Michael, 1995).

(2) Frequent flyer program benefits: Frequent flyers may exchange their accrued mileage for many benefits such as free ticket, upgrade, discounts, or even non-travel related products. They are also eligible for many intangible services, such as priority in reservations, check-in, boarding, security line, and baggage handling, and may be allowed to bring extra baggage (Shaw, 2001).

Structure of the Thesis

This thesis is comprised of five chapters. Chapter 1 is the introduction, including the statement of the problem, purpose of the study, design of the study, significance of the

study, definitions of terms, and structure of the thesis. Chapter 2 presents the literature review with discussion about the origin and history of frequent flyer program, Asian airlines market, frequent flyer programs in Asia, factors affecting travelers' choice of an airline, the consumer choice model, customer preferences about frequent flyer program benefits and business travelers. This chapter concludes with a discussion on the use and value of conjoint analysis. Chapter 3 discusses the research method, including data collection, and analysis, while Chapter 4 contains the results following data analysis. Finally, the conclusions and suggestions for future research are addressed in Chapter 5.

CHAPTER 2

Literature Review

This chapter includes the literature review pertaining to the current investigation about customer preferences of frequent flyer benefits and is divided into five parts. The first part is comprised of a general background and history of frequent flyer programs and descriptions of the Asia airline market and frequent flyer programs in Asia. The second part contains factors affecting travelers' choice of an airline, with the third part discussing the consumer choice model. The fourth part includes customer preferences about frequent flyer program benefits and business travelers. Finally, conjoint analysis is discussed in the final section of the chapter.

Frequent Flyer Programs

General Background of Frequent Flyer Programs

As a result of the 1978 airline deregulation in the United States, the airline industry was able to develop new strategies and opportunities to attract customers. One such strategy was the development of the frequent flyer program. American Airlines was the first airline in the world to launch the first mileage-based frequent flyer program in the world in 1981 with its "AAdvantage" ("Funny Money," 2005; Mason & Barker, 1996).

Several other airlines in the United States followed suit in terms of implementing their own frequent flyer programs. For example, Continental Airline offered the “Flightbank Program” which was the first one allowing members to earn extra air mileage (Mason & Barker, 1996). When the Australian airline industry was deregulated in 1990, Australian and Ansett airlines developed their own frequent flyer programs until Qantas merged with Australian and began operating the Qantas/Australian the frequent flyer program in 1992 (Browne, Toh, & Hu, 1995).

According to Suzuki (2003), there were three types of frequent flyer program schemes in the United States. The first was the “standard scheme,” which gave one free round-trip to any destination within the United States in exchange for a specific number of accumulated miles. The second type was the “non-mileage scheme,” giving free tickets by the number of flown trips, rather than the amount of flown miles. The last one was the “discount scheme,” which allowed customers to redeem their accumulated mileage for a free ticket but less mileage was needed for shorter free trips than longer ones.

Today customers have many different ways to earn mileage points, including using airline alliance credit cards, hotels, restaurants, long distance telephone, and assigned

travel agencies. Mileage points can be redeemed for free tickets, upgrades, discount travel packages, or services. Furthermore, to encourage repeat customers, most programs offer a free airport lounge, extra baggage allowance, expedited check-in, and boarding priority in order to encourage repeat customers (Suzuki, 2003; Toh, Browne, & Hu, 1996).

Despite many of the benefits that frequent flyer programs offer, they also suffer from several flaws. According to Kearney (1990) and Uncles (1997), since airlines are now extensively implementing frequent flyer programs to build customer loyalty, many unredeemed miles have begun to be accumulated in customers' accounts. This causes income forecasting difficulty to the airlines because airlines can't estimate when customers will want to redeem these miles and to what end. To solve this problem, airlines have decreased the number of free seats and increased the required accumulated mileage for free tickets. Moreover, airlines have not been able to avoid brokers selling the free tickets in the market ("Funny Money," 2005; Kearney, 1990). As a result, the value of frequent flyer program miles has begun to be diminished ("Funny Money," 2005).

Airline Market in Asia

According to Hooper (1997), low inflation, continued microeconomic reform, and higher levels of technology are required continually for an economy to be successful. Taiwan, Hong Kong, Singapore, and South Korea, have had an outstanding record in maintaining high economic growth rates throughout Asia. In addition, Sadi and Henderson (2000) stated that it was generally predicted that the economic growth rates in Asia would be higher than average economic growth rates, while the air traffic share of Asia was forecasted to grow from 25% to 40%. The International Air Transport Association (IATA) in 2006 forecasted that air traffic in Asia would grow more quickly than other parts of the world, so that by 2014, over half of all passengers would travel by air within the Asia Pacific region. Barry (2003) indicated that Boeing forecasts that over the next 20 years, China will become the largest aviation market outside the United States because air traffic in China is growing at 7.6% annually.

Despite positive projections, Sadi and Henderson (2000) stated that Southeast Asia suffered as a result of the economic crisis in 1997, caused by the currency crunch began with in Thailand. As a result, revenue from tourism decreased 6.9% in 1997 and 3.8% in 1998 in East Asian. Hong Kong also suffered an 11.1% drop in tourist arrivals in

1997 and a 5.2% drop in 1998. As a result of the economic crisis, most Asian Airlines struggled to remain profitable. One strategy employed by several airlines in Asia was to develop cooperative partnerships with each other, causing air traffic to grow again. The most successful of these strategies was airline alliances including frequent flyer programs (Sadi & Henderson, 2000).

Frequent Flyer Programs in Asia

Mak and Go (1995) indicated that it is important to encourage travelers to choose a particular airline, so implementing frequent flyer programs is a crucial marketing strategy to establish customer relationships and customer loyalty. Moreover, building partnerships with other airlines is an essential method to improve frequent flyer program benefits. Weber (2005) noted “collaborative or cooperative strategies were proposed as viable counterparts to competitive strategies as a key strategic management tool” (p. 257). Therefore, in order to contend global competition, airlines in Asia launched their own frequent flyer programs, such as China Airlines developing the Dynasty Flyer Program (DFP) in 1989 and Thai Airlines introducing a frequent flyer program in 1993. In addition, Cathay Pacific Airways developed “Asia Miles” to differentiate their packages to meet the needs of targeted customers (Sadi & Henderson, 2000). Furthermore, in

1993, Cathay Pacific Airways, Malaysian Airlines, and Singapore Airlines cooperated to develop unified frequent flyer program called “Passages” (Mak & Go, 1995).

Today most airlines have joined global airline alliances, such as Oneworld, Star Alliance, and Skyteam to increase flight frequency and provide more comprehensive routes to their customers (Weber, 2005). For example, Yang and Liu (2003) stated that China Airlines has a code-sharing service with United Airlines and Continental Airlines that began in 1997. In addition, many airlines have built relationships with other industries such as restaurants, banks, hotels, rental car companies, and telephone companies to extend the value of the frequent flyer program benefits. As a result, travelers can be rewarded even for non-travel related products (Shaw, 2001), evidenced by China Airlines developing a partnership with Bank of America to offer a credit card for enhancing the value of frequent flyer program benefits (Yang & Liu, 2003).

Moreover, many airlines such as EVA Air, China Airlines, Cathay Pacific, and Singapore Airlines have partnerships with Hertz, car rental company (Cathay Pacific, 2006; China Airlines, 2006; EVA Airways, 2006; & Singapore Airlines, 2006). Therefore, airline alliances not only assist airlines in Asia in entering the foreign market, but also increase the value of frequent flyer program benefits (Yang & Liu, 2003).

In addition to the benefits of frequent flyer programs, there are many other factors that influence the choice of airline by customers. These factors will be discussed in detail in the following section.

Factors Affecting Customers' Choice of an Airline

According to Chin (2002), networks of airlines, market share of airlines, distance and duration of flights, and characteristics of frequent flyer programs are the major factors that influence customers' choice of an airline. In terms of networks of airlines, the number of included destinations and partners are always considered by frequent flyers because they can accumulate more frequent flyer miles through larger networks. In addition, the presence of airlines in a city can enhance the frequent flyer program, because "an increase in an airline's airport market share by 10% enhances the value of the Frequent Flyer Program by US \$4.80" (Chin, p. 56). Furthermore, distance and duration of flights is an element affecting customer airline choices, as is the amount of the travel mileage which has been positively correlated with total travel times (Chin, 2000).

Overall, Browne, Toh, and Hu (1995) and Toh, Browne, and Hu (1996) indicated that on-time performance, convenience of schedules, cabin service, low fares, frequent

flyer programs, meals, corporate travel planner, and travel agents are additional elements influencing customers' choice of an airline. However, customers who are frequent flyer program members are less sensitive about fares than the non-frequent flyer program members (Chin, 2000). Hsu and Wen (2003) also proposed a passengers' airline flight choice model which depicted that the service level of airlines, convenience of schedules, air fares, reputation, safety record, and frequent flyer programs were the elements that passengers considered when they chose an airline.

Additionally, Suzuki (2004) created the airline choice behaviors' model to indicate that membership in frequent flyer programs, air fare, service frequency, flight mileages, and availability of direct flights were the factors that affected the airline choices of travelers. Moreno (2006) represented that travel frequency, travel experience at different destinations, and travel purpose were elements that had an impact on travelers' decisions regarding airlines. Moreover, air fares, convenience of flight schedules, on-time performance, seat availability, reputation, and safety were other factors influencing passengers' choice of airlines (Moreno).

As stated before, frequent flyer programs also have a significant role in determining the choice of an airline, especially for members of frequent flyer programs

(Moreno, 2006; Suzuki, 2003; Yang & Liu, 2003). Loyalty to specific airlines was reflected in customers taking the benefits of frequent flyer programs into account when choosing airlines. Frequent flyer programs members are influenced by market shares of airlines and the airline's attractiveness (Moreno, 2006). In addition, "the carrier choice probability increases from 50% to 72% for travelers who become members of that carrier's FFP and to 92% for frequent travelers who actively participate in that carrier's FFP" (Moreno, 2006, p. 24).

According to Chin (2000), the numbers of members that can be attracted to frequent flyer program holds the key to determine the success of a frequent flyer program. Before launching a frequent flyer program, the airline must decide on the target market. To this end, various redemption systems of frequent flyer programs have existed because different airlines have distinct target groups (Chin).

On the other hand, customer preference plays an important role in improving airline service. Tybout and Haurser (1981) proposed a consumer choice model to describe the relationship between consumer preferences and choice. This choice model will be discussed in the following section.

Consumer Choice Model

Tybout and Hauser (1981) proposed the consumer choice model which begins with physical characteristics or observable factors in the environment. Tybout and Hauser indicated that a perception is not led by a unique physical characteristic because a physical characteristic may contribute to the development of several perceptions in various ways. Finally, various physical characteristics are integrated and considered in determining perceptions (Tybout & Hauser).

Vogt and Andereck (2003) described perceptions as being “the way consumers organize and interpret information about products” (p. 348). Prior experiences both directly and indirectly influence consumer perceptions of products and services as well as consumer subsequent actions and beliefs (Vogt & Andereck).

Zeithaml (1988) presented a means-end model to connect the constructs of perceived value, quality, and price. Zeithaml indicated that people assess a product or service depending on their perceptions of value, price, and quality. Perceived value is defined as the perceived overall value given to the best evaluation of the experience when customers are able to assess tradeoffs between quality and price (Kashyap & Bojanic, 2000). Perceived quality entails the judgment of consumers about the overall

superiority and excellence of a product or service (Zeithaml), while perceived price is “a combination of monetary price and nonmonetary price, including other factors such as time, search costs, and convenience” (Kashyap & Bojanic, p. 46). Prior literature indicates that perceived value plays a crucial role in affecting traveler decisions and rebuy intentions (Kashyap & Bojanic; Zeithaml), as well as brand preferences (Hellier, Geursen, Carr, & Rickard, 2003).

According to Tybout and Hauser (1981), preferences were the combination or aggregation of perceptions and Norton (1987) indicated that preferences were the subjective judgment of consumers for a product. Norton further stated that he evaluating standard for a product was based on the unique characteristics of the product, the experience of consumers, and the environmental stimulations that combine to produce the reward experience. This reward experience was developed into a system that helped to determine value. It must be noted that unforeseen environmental factors and constraints mediated preferences in determining choice, with the choice experience considered to generate new perceptions (Tybout & Hauser, 1981).

In summary, Tybout and Hauser (1981) stated that “choice may be influenced by varying physical characteristics of a product, perceptions of product characteristics and

perceptions of environmental factors associated with the product, and the relative important of perceptions in determining preference” (p. 84). Based on the consumer choice model, the present investigation utilized conjoint analysis to examine the preferences of business travelers for frequent flyer program benefits. However, before discussing what conjoint analysis is and how it can be used to determine customer preferences, it is necessary to have an understanding from the perspective of customers, the benefits of frequent flyer programs, covered in the following section.

Customer Preferences of Frequent Flyer Program Benefits

A comprehensive review of literature indicated that customer preferences have usually been ignored in research studies on airline services studies, yet a sustainable and profitable business is dependent on customer commitments (Goh & Uncles, 2003; Weber, 2005). Although free ticket and upgrade were the major benefits of frequent flyer programs, members of these programs desire more intangible values and services (Great China Customer Relationship Management, 2006). Therefore, an in-depth investigation of customer preferences of frequent flyer program benefits is vital for a clear understanding of the issue.

According to Shaw (2001), members of frequent flyer programs desired not only the basic benefits of frequent flyer programs, such as free ticket, upgrade, and discounts for buying packages, but also better intangible services and values. For example, many of them expected a booking priority and booking guarantee at peak periods (Shaw, 2001). They also hoped that airlines could get wider expansions of the program with other airline partners so they could have more choices of destinations (Goh & Uncles, 2003). Moreover, frequent flyers desired a comfortable and convenient facilities lounge because they usually spent a lot of time in the lounge (Shaw, 2001; Weber, 2005). Furthermore, Shaw (2001) indicated that frequent flyers expected routine statements of mileage balances, either traditional paper ones or electronic mail. Finally, frequent flyers desired non-travel related products, such as a golf class. In summary, frequent flyers wanted not only tangible products, but intangible values and services, suggesting that the airlines should clearly recognize what their target markets really need. With an increase in business travel, business travelers make up the majority of members of frequent flyer programs (Weber, 2005). The whole phenomenon of traveling for business is going to be addressed in the following section.

Business Travelers

Suzuki (2003) categorized travelers into two types: business travelers and leisure travelers. Swarbrooke and Horner (2001) defined business travelers as people traveling for their work and staying away from home for at least one night. Business travelers usually had a tendency to fly more than other travelers. They were also less sensitive to price (Bender & Stephenson, 1998; Goh & Uncles, 2003). As business travelers usually paid more for their tickets than leisure travelers on the same trip, business travelers generally paid a higher price to earn mileage than did leisure travelers. However, there was no difference in the monetary values of free tickets between business travelers and leisure travelers when mileage accumulated by business trips was redeemed for leisure travel (Suzuki, 2003).

Moreno (2006) pointed out that business travelers and leisure travelers had varying preferences of frequent flyer programs. Because business travelers usually flew more than other travelers, business travelers mostly participated in frequent flyer programs. Lu and Tsai (2004) indicated that business travelers and non-business travelers had different rankings regarding airline services, such as in-flight ones. Non-business travelers put more emphasis on in-flight services than did business travelers. In contrast,

business travelers placed more emphasis on reservations and check-in service than non-business travelers, and were more concerned with flights being on-schedule (Lu & Tsai).

Suzuki (2002) stated that many corporations asked employees to participate in frequent flyer programs to accumulate miles during business trips so as to acquire free tickets for the future business trips. Suzuki also described the two ways of using frequent flyer program miles: one was requiring employees to always use the same carrier to accumulate the miles, while the other way was to ask employees to purchase the lowest-fare ticket at all times and participate in the different frequent flyer programs of different airlines. Either way, business travel miles could be redeemed as soon as they reached the threshold level for a free ticket (Suzuki).

Conjoint Analysis

Since conjoint analysis has been identified as one of the best methods to predict and understand customer preferences (Gustafsson, Herrmann, & Huber, 2001), this study utilized conjoint analysis to analyze the importance of frequent flyer program benefits in deciding airline choice for business travelers.

Introducing Conjoint Analysis

According to Gustafsson et al. (2001), conjoint analysis has been employed extensively in marketing studies to examine customer preferences since the beginning of the 1970s. Sawtooth Software Company (2006) indicated that conjoint analysis is one of the most popular quantitative methods in marketing research. It is a choice-based method that provides different combinations to respondents at one time and asks them to evaluate them.

Hair et al. (1998) stated that conjoint analysis was applied to measure the perceived value of specific features of a product. It was used to first learn about the demand for a particular product, then to forecast the acceptance of that particular product in the market. Conjoint analysis employed a more realistic context to evaluate the potential profiles of a product, rather than asking respondents directly what they preferred (Gustafsson et al., 2001).

In addition, Gustafsson et al. (2001) indicated that conjoint analysis was primarily used in developing a new product, improving existing achievements, determining pricing policies, advertising, and distributing. They further stated that conjoint analysis was also utilized as an instrument of optimal combination of the product design, side

payments for human resources in the company, market segmentation, and purchasing stimulation focusing on the responses of competitors. Therefore, the goal of conjoint analysis was to predict and explain preferences resulting in an assessment (Gustafsson et al., 2001; Hair et al., 1998). There are seven steps for conducting the conjoint analysis. They are discussed in the next section.

Process of Conjoint Analysis

Gustafsson et al. (2001) proposed that there are seven steps in the process of conjoint analysis:

Step 1: Selection of the preference function. According to Gustafsson et al. (2001), the preference function is the basis for deciding partial benefit values for respective attributes. In addition, it reflects the preferences of the persons interviewed. The ideal vector model (linear), ideal point model (linear plus quadratic), and partial benefit model (piecewise linear) are the most common models used (Green & Srinivasan, 1990). Hair et al. (1998) indicated that when the ideal vector model is conducted, a proportional relationship is assumed between the manifestation of an attribute and a partial benefit value. When the ideal point model is employed, the existence of an ideal manifestation is assumed. The benefits value of a manifestation falls when it drops below or exceeds

the ideal point. For the partial benefits model, manifestations of attributes can only be interpolated when the scale level is metric and this model is not assumed a specific functional process. Therefore, the partial benefit model is more flexible for designing the attribute evaluation function and it is mainly used for conjoint analysis (Gustafsson et al., 2001; Hair et al., 1998). As a result, this study utilized the partial benefits model.

Step 2: Selection of data collection method. The data collection method includes the profiles method, two-factor method, and adaptive conjoint analysis (ACA) (Hair et al., 1998; Gustafsson et al., 2001). Because the description of the profiles method comes closer to a real purchasing situation and all attributes will be put together to be evaluated by respondents (Sawtooth Software, 2006), the current investigation used the profiles method.

Step 3: Selection of data collection design. This step contains both full profile design and reduced design. Full profile design has to examine all possible incentives, with 30 incentives being the upper limit (Gustafsson et al., 2001). Therefore, this study employed reduced design and used orthogonal arrays to reduce the incentives.

Step 4: Selection of the way of stimuli are presented. There are two ways to present the incentives: verbal description and visual representation (Hair et al., 1998).

This study chose verbal descriptions because they were easier and more efficient.

Step 5: Selection of data collection procedure. Gustafsson et al. (2001) described three methods of data collection procedure: person-to-person interviews, mail surveys, and computer interviews. This study used person-to-person interviews.

Step 6: Selection of the method for evaluating the stimuli. Methods for evaluating the incentives are divided into rating and rankings (Sawtooth Software, 2006). This study employed a rating scale because it provided more information at the same time while making the information easier to be counted and evaluated (Hair et al., 1998).

Step 7: Estimation of benefit values. OLS (ordinary least square regression) is the most appropriate for conjoint value analysis with rating (Sawtooth Software, 2006). Therefore, this study used OLS to estimate the benefit values.

In summary, Table 1 shows each step employed in the conjoint analysis process.

Table 1

Methods of Conjoint Analysis Used by This Study

Steps of analysis	Methods used by this study
Preference function	Partial benefit value model
Data collection method	Profiles method (Conjoint Value Analysis)
Data collection design	Reduced design
Way the stimuli are presented	Verbal description
Data collection procedure	Person-to-person interviews
Method for evaluation of the stimuli	Rating scale
Estimation of benefit values	OLS

Conjoint Analysis Studies in Tourism

According to Hair et al. (1998), Gustafsson et al. (2001), and Sawtooth Software (2006), conjoint analysis is considered a reliable method to analyze customer preferences. It can help market analyzers to understand the real purchasing decisions by consumers. However, while there have been no conjoint analyses employed in determining airline choices of business travelers with frequent flyer program benefits, some conjoint studies

have been conducted on other tourism-related industries.

In particular, Suh and McAvoy (2005) employed conjoint analysis to examine the preferences of European, North American, and Japanese travelers to Seoul, Korea. The original attributes were nine with every attribute consisting of two levels, making it too complex to analyze. Therefore, Suh and McAvoy utilized a pilot study to reduce the nine attributes to four with every attribute still containing two levels. The four attributes were opportunities to experience local culture, food, opportunities for shopping, and accommodation location. Moreover, Suh and McAvoy employed a subsequent orthogonal design to get eight trip packages. Finally, the results showed that both pleasure and business travelers from near the destination (Japan) gave a tangible attribute such as shopping, the most value. Conversely, travelers from Europe and North America evaluated intangible attributes such as local culture as the most valuable. These results were useful for Seoul in developing a city marketing plan specifically for international travelers (Suh & McAvoy).

Thyne, Lawson, and Todd (2006) also employed conjoint analysis to measure the impact of cultural differences between tourists and hosts on host communities. This experiment was designed to determine the importance of nationality, age, and type of

tourist (independent backpacker versus arranged bus tours) to the host community in deciding tourist preferences. The results indicated that U.S. nationality was the most preferred. The preferred tourist type was a backpacker, with over-50 being the preferred age group. Therefore, nationality was the most important factor in tourist preference followed by tourist type and age. The market analyzers were able to identify the host preferences for different tourist attributes through conjoint analysis (Thyne, Lawson, & Todd).

Summary

Frequent flyer programs are an important marketing strategy for the airline industry. The benefits of frequent flyer programs have a significant influence on travelers' airline choices. Conjoint analysis has been identified as a reliable method to determine preferences among different customer segments. Hence the current study employed it to generate the best combination of frequent flyer program benefits in order to assist the airline industry in better understanding of business travelers' preference. This allowed the possibility for airline to differentiate themselves from competitors based on what their target market really needs.

CHAPTER 3

Method

The purpose of this study was to examine the preferences of business travelers regarding frequent flyer program benefits. This chapter presents the research design, research target, instruments, data collection, data analysis, and strategies to ensure validity and reliability of this study.

Research Design

This study used a quantitative research approach. Because this study intended to generalize the findings to a larger population, a quantitative survey research was determined to be the most effective strategy to carry out this study. This study was conducted in two stages. Stage One focused on the selection of the most important frequent flyer program benefits that business travelers will consider in joining a frequent flyer program. These selected benefits were then used in Stage Two to study the business travelers' preferences of frequent flyer program benefits. By utilizing conjoint analysis, the optimal combinations of benefits of frequent flyer program were decided (Green & Srinivasan, 1978). Research designs of Stages One and Two, target population, instrument, data collection, and data analyses are discussed in the following

sections.

Stage One: Determining the Most Important Benefits of Frequent Flyer Program.

Purpose. Currently, several benefits are offered by various frequent flyer programs (American Airlines, 2006; Cathay Pacific, 2006; China Airlines, 2006; Continental Airlines, 2006; Delta Airlines, 2006; EVA Airways, 2006; Japan Airlines, 2006; Korean Air, 2006; Singapore Airlines, 2006; United Airlines, 2006). However, it is difficult to determine which ones are more important than the others, especially, when business travelers try to decide which frequent flyer program to join. In order to find out which ones are more important than the others, it is necessary to reduce the number of those benefits into more manageable are. In addition, Sawtooth Software (2006) suggested that the most optimal number of attributes for conjoint value analysis is six. Therefore, the objective of Stage One was to identify the six most important frequent flyer program benefits which would be utilized in Stage Two of this study.

Target population. The target population for this stage was business travelers who were 18 years or older and who travel between the United States and countries in Asia. According to San Francisco International Airport statistics (2006), the number of passengers to Asia in 2005 was 7,837,172. Riddick and Russell (1999) suggested a

sample size of 384 was appropriate for population over 100,000 to ensure sufficient power for the analyses.

Instrument. A questionnaire with two sections was used to collect data at Stage One. The first section was a list of benefits of frequent flyer program which was compiled from frequent flyer programs of airlines serving between the United States and countries in Asia. Those airlines included American Airlines, Cathay Pacific, China Airlines, Continental Airlines, Delta Airlines, EVA Airways, Japan Airlines, Korean Air, Singapore Airlines, and United Airlines. The frequent flyer benefits included free ticket, upgrade, reservation hotline, priority reservations, confirmed reservations, seats selection, priority baggage, extra baggage allowances, VIP lounge use, discounts on in-flight duty-free shopping, spousal upgrades, mileage statements, additional miles for packages, bonus mileages, birthday gift miles, tier upgrade mileages, mileage earned from airline partners, and non-travel related rewards were all benefits of frequent flyer programs. Participants were asked to select the six most important benefits items from the comprehensive list of twenty frequent flyer program benefits in four categories. Section two of the questionnaire included demographic information of gender, age category, occupation, and country of residence. A sample questionnaire employed in Stage One is

presented in Appendix A.

Data collection. Data was collected at San Francisco International Airport between June 20 and June 28, 2007. San Francisco International Airport is a gateway between the United States and countries in Asia. A convenient sampling method was employed to collect data. Participants were recruited around check-in counters of airlines at the San Francisco International Airport. First, the researcher and research assistant searched for potential respondents and explained the purpose of the study to them. The respondents were screened based on whether they were 18 years or older, and whether they had traveled for business purposes. This was done in order to make sure the individual met the qualifications for participating in the study. When the individual agreed to participate, the researcher presented that person with a consent form (see Appendix B) first. After the person signed a consent form, the researcher gave the person the questionnaire. In addition, the researcher explained to the respondent the contents of the instrument and answered any potential questions the respondent may have. The participant was free to quit anytime during the process. After the respondents completed the questionnaire, the researcher or the research assistant checked for completeness, and then expressed appreciation to the person for providing valuable

information for this study.

During the survey, 450 people were asked to participate, but 47 people declined. Finally, 403 completed questionnaires were collected. Therefore, the valid sample size was 403 with a rejection rate of 10.4%, and a valid return rate of 89.5%.

Data analysis. Data was analyzed by frequency analyses using the Statistical Package for the Social Sciences (SPSS) version 11 (Ciou, 2006). In order to determine the six most important benefits, the six items with the highest frequency were selected to be used in State Two of the study. Also, differences between demographic groups were examined by Chi-Square to test the differences between, for example: gender, age, occupations, or country of residence and preferred frequent flyer program benefits.

Stage Two: Conjoint Analysis of Preferences of Business Travelers about Frequent Flyer Program Benefits

Purpose. The objective of Stage Two was to examine business travelers' preferences regarding frequent flyer program benefits. It was assumed that business travelers will consider benefits of frequent flyer program when they are deciding whether to join a frequent flyer program. It was also assumed that these frequent flyer program benefits carried equal weight in decision making which fit the theoretical basis of

conjoint analysis (Green & Srinivasan, 1978).

Target population. The target population was defined as adult business travelers and who travel between the United States and countries in Asia. As stated earlier (San Francisco International Airport statistics, 2006), the number of passengers to Asia in 2005 was 7,837,172. Riddick and Russell (1999) suggested that a sample size of 384 was appropriate for a population over 100,000 to ensure sufficient power for analyses.

Instrument. Survey instrument was designed by following the conjoint research design suggested by Sawtooth Software (2006). The questionnaire was divided into three sections. Section one of the questionnaire included several benefits combinations of frequent flyer program. Those six frequent flyer program benefits identified in Stage One were used to design the combinations cards. The benefits are upgrade, free ticket, VIP lounge, priority reservation, mileage earned from airline partners, and priority boarding. According to Sawtooth Software (2006), these frequent flyer program benefits are called attributes in conjoint analysis. In addition, each attribute included two levels: upgrade included 15,000-30,000 miles and 31,000-50,000 miles; free ticket comprised of 60,000-90,000 miles and 91,000-120,000 miles; VIP lounge contained second (lower) level membership use and third (higher) level membership use; priority

reservation covered second (lower) level membership use and third (higher) level membership use; mileage earned from airline partners had yes and no levels; and priority boarding also involved yes and no levels. Therefore, based on these attributes and their respective two levels, the optimal combinations of benefits were generated. In order to reduce overlapping combinations, orthogonal arrays of conjoint design were utilized to generate the eight optimal combinations which customers may prefer (Sawtooth Software, 2006). Each combination was presented on a card and shown to respondents one at a time with a verbal description. The respondents were asked to rate each combination card by using a scale from zero (do not like at all) to 100 (really like it). In addition, an open-ended question related to additional expectations about frequent flyer program benefits was added to the questionnaire in order to examine business travelers' expectations which were not included in this study. A sample questionnaire is presented in Appendix C. The eight combinations of attributes and levels are presented in Table 2 while the Figure 1 depicts the example card.

Table 2

Eight Combination Cards of Benefits

The attributes and levels of six frequent flyer program benefits						
Card	Upgrade (mileages)	Free Ticket (mileages)	VIP lounge (member- ship level)	Priority reservation (member- ship level)	MP	PB
1	31,000-50,000	91,000-120,000	Third	Second	Yes	No
2	15,000-30,000	91,000-120,000	Second	Third	Yes	No
3	15,000-30,000	60,000- 90,000	Third	Second	No	No
4	31,000-50,000	91,000-120,000	Second	Second	No	Yes
5	15,000-30,000	60,000- 90,000	Second	Second	Yes	Yes
6	15,000-30,000	91,000-120,000	Third	Third	No	Yes
7	31,000-50,000	60,000- 90,000	Second	Third	No	No
8	31,000-50,000	60,000- 90,000	Third	Third	Yes	Yes

Note. MP=mileages earned from airline partners; PB=priority boarding.

<u>Card 1</u>										
Upgrade: 31,000~50,000 (miles)										
Free ticket: 91,000~120,000 (miles)										
VIP lounge: Third level membership and over										
Priority Reservation: Second level membership and over										
Mileages earned from airline partners: Yes										
Priority boarding: No										
Please give a rate based on above descriptions:										
0	10	20	30	40	50	60	70	80	90	100
Do not like at all						Really like it				

Figure 1. Example of benefit combination card.

Section two of the questionnaire included questions regarding participants' current enrollment in frequent flyer programs. Questions included frequent flyer program which they currently enrolled in, number of business trips between the United States and countries in Asia in the past twelve months, total mileage between the United States and countries in Asia which they accumulate in last twelve months, and benefits which they redeemed in the last twelve months. Data collected in this section was employed to examine the difference between current enrollment in frequent flyer programs and the results of conjoint analysis.

The last section of the questionnaire sought demographic information from respondents so as to understand individuals' background. The items of inquiry in this section included gender, age, occupation, and country of residence.

Human subjects. This study was approved by the Human Subjects-Institutional Review Board of San Jose State University before the commencement of data collection. A copy of the approval letter of the Institutional Review Board is attached in Appendix D. This study included voluntary participation, confidentiality of respondents, and informed consent. No participant was forced to participate in the survey and provided personal contact information, such as phone number, name, and address. The information provided by participants was used only for this research, not for other purposes.

Pilot study. A pilot study was conducted on July 1, 2007 at San Francisco International Airport. The researcher distributed questionnaires to 15 adult business travelers who were 18 years or older and had traveled between the United States and countries in Asia. According to the pilot study, each respondent needed approximately five minutes to finish rating eight cards with the researcher, and two to five minutes to complete membership information and demographic information. The final questionnaire was revised based on the results of pilot study and suggestions made by the

respondents.

Data collection. Data was collected at San Francisco International Airport during July 15, 2007 and August 3, 2007. The researcher used convenient sampling method to conduct surveys. Participants were recruited around check-in counters of airlines. First the researcher and the researcher assistant searched for potential respondents and explained the purpose of the study to them. The respondents were asked whether they were 18 years or older, and whether they have traveled for business purpose in order to make sure the individual met the qualifications for participating in this study. When the individual agreed to participate, the researcher gave that person a consent form (see Appendix E). After that person signed the consent form, the research gave a questionnaire to the respondent. In addition, the researcher explained the contents of the survey and any additional questions the respondent may have had. The participant was free to quit anytime during the process. After the participant completed the questionnaire, the researcher and/or the researcher assistant checked it to make sure the participant completed all questions. Furthermore, the research expressed appreciation to the person for providing valuable information for this study.

During the survey, 500 people were asked to participate, but 90 people declined. Of the 410 who agreed to participate, 21 people quit at various points during the process, resulting in a valid sample size of 389. The rejection rate was 18%, and the valid return rate was 77.8%.

Data analysis. In order to examine business travelers' preferences regarding frequent flyer program benefits, data was analyzed by employing the conjoint analysis module of SPSS, a module that has been used frequently to investigate the preferences of customers (Gustafsson et al., 2001). In addition, conjoint analysis calculates part-worth of each attribute, which can evaluate the preferences of business travelers regarding each attribute and level. Finally, differences among demographic groups were analyzed by using *t*-test and analysis of variance (ANOVA).

Validity and Reliability

Validity

Validity addresses the relationship between a measurement and its concept (Depoy & Gitlin, 2005). In addition, it includes the ability of measuring the accuracy of instrument (Ciou, 2006). According to Green and Srinivasan (1990), the value of conjoint analysis is based on the accumulative record of offering meaningful forecasts of

customer buying choice. In addition, they also stated that conjoint analysis was a valid research method in product design and evaluation. During the past several years, various studies have demonstrated the ability of conjoint analysis to predict customer choice behavior. For this study, three strategies were used to ensure validity in research design. First, frequent flyer program benefits used in Stage One survey were compiled from current frequent flyer program of airlines serving between the United States and countries in Asia. Second, these benefits (attributes) used in the conjoint analysis of Stage Two were objectively chosen by actual business travelers. Finally, a panel of experts of San Jose State University evaluated the instruments of both Stage One and Stage Two to ensure their accuracy for this study.

Reliability

Reliability refers to the extent which researcher can rely on the results acquired from an instrument (Depoy & Gitlin, 2005). According to Green and Srinivasan (1978), reliability can be evaluated by test-retest method, which was used to determine reliability of this study. Fifteen adults were recruited to test the instrument. After two weeks, these fifteen adults took the survey again in the same sequence. Correlation coefficient between the first measure and the second measure was calculated to evaluate reliability.

The results showed that the Pearson correlation of Card 1 to Card 8 between first measure and second measure were 0.80, 0.97, 0.72, 0.90, 0.98, 0.94, 0.92, and 0.83 respectively with a statistical significant ($p < 0.05$). According to Depoy and Gitlin (2005), “the higher the correlation or relationship between the two scores, the greater is the reliability” (p. 182). In addition, a 0.7 correlation represented an adequate reliability. Therefore, those combination cards were deemed acceptable to this study.

Summary

A quantitative research was employed in this study and there were two stages. The research targets for the two stages were business travelers who were 18 or older and who had frequently flown between the United States and countries in Asia. A questionnaire at aided in narrowing down to six most important benefits of frequent flyer programs. These benefits were developed by collecting data from 403 respondents. In addition, a questionnaire at Stage Two helped in determining regarding the travelers' preferences about the benefits of frequent flyer programs. Surveys at both Stage One and Stage Two had demographics. Preferences were determined by collecting data from 389 respondents. SPSS Windows version 11 with conjoint analysis was used to analyze the data and to examine business travelers' preferences regarding the benefits of frequent

flyer programs. Results obtained from this analysis will be presented in the following chapter.

CHAPTER 4

Findings

This chapter presents the findings of Stage One and Stage Two. To assist the reader, the purpose of this study was to examine the preferences of business travelers regarding frequent flyer program benefits. Stage One findings comprised of the frequency of demographic information of respondents, the frequency of the choice of twenty frequent flyer program benefits, and comparison among the choice of frequent flyer program benefits and various sub-groups of respondents. Stage Two findings included preferences of business travelers, preferences of various groups, and comparison among the choice of benefits combinations and various sub-groups.

Stage One Findings

Demographic Information of Respondents

This section presents the demographic characteristics of the survey. Respondents' demographic variables included gender, age, occupation, and residential countries. Among the 403 valid respondents who were 18 years or older and had traveled between the United States and countries in Asia; 75.2% respondents were male ($n=303$); and, 24.8% respondents were female ($n=100$). In addition, 31.0% respondents

were between 31 and 40 years old ($n=125$); 29.8% respondents were between 18 and 30 years old ($n=120$); 19.4% respondents were between 41 and 50 years old ($n=78$); 14.1% respondents were between 51 and 60 years old ($n=57$); and, 5.7% respondents were 61 years or older ($n=23$). Furthermore, 29.8% respondents worked in information technology industry ($n=120$); 20.8% respondents worked in manufacturing industry ($n=84$); 19.1% respondents chose “others” for this part ($n=77$); 14.4% respondents had a job at finance and insurance industry ($n=58$); 7.9% respondents worked at wholesale business ($n=32$). In addition, 5.5% respondents had education related job ($n=22$); 1.2% respondents worked at tourism industry ($n=5$). However, only 0.5% respondents had a job in the government ($n=2$) and 0.5% respondents worked at agriculture, fishery, forestry, mining industry ($n=2$). There was one response missing in this part. Finally, 58.8% respondents lived in the United States ($n=237$) and 41.2% respondents lived outside the United States. Table 3 summarizes the results.

Table 3

Demographic Characteristics of Respondents

Variables	Items	<i>n</i>	%
Gender	Male	303	75.2
	Female	100	24.8
Age	18-30 years old	120	29.8
	31-40 years old	125	31.0
	41-50 years old	78	19.4
	51-60 years old	57	14.1
	61 years old and above	23	5.7
Occupation	Governments	2	0.5
	Education	22	5.5
	Tourism industry	5	1.2
	Wholesale business	32	7.9
	Finance and insurance industry	58	14.4
	Agriculture industry	2	0.5
	Information technology industry	120	29.8
	Others	77	19.1
	Missing	1	
	Country of residence	The United States	237
Non-United States		166	41.2

Analysis of Frequent Flyer Program Benefits Choices

The results of frequency analysis for twenty benefits of frequent flyer programs are shown on the Table 4. The six benefits with highest frequency were selected to be used in Stage Two as indicated in Chapter three. These represented the benefits that were the most preferred by the business travelers. The six most important frequent flyer program benefits identified were upgrade (84.6%), free ticket (73.2%), VIP lounge (53.8%), priority reservation (46.9%), mileages earned from airline partners (38.7%), and priority boarding (37.5%).

Table 4

Analysis of Frequent Flyer Program Benefits Choices

Frequent flyer program benefits	<i>n</i>	%	Order
Upgrades	341	84.6	1
Free ticket	295	73.2	2
VIP lounge	217	53.8	3
Priority reservation	189	46.9	4
Mileages earned from airline partners	156	38.7	5
Priority boarding	151	37.5	6
Exclusive check-in counter	141	35.0	7
Spouse upgrades	135	33.5	8
Priority security line	112	27.8	9
Priority baggage	105	26.1	10
Extra baggage	83	20.6	13
Additional miles earn from buying airline travel packages	77	19.1	14
Discount on in-flight duty free shop	62	15.4	15
Confirmed reservation	46	11.4	16
Birthday gift miles	35	8.7	17
Non-travel related rewards	35	8.7	18
Reservation hotline	29	7.2	19
Mileage statement	26	6.5	20

Analysis of Frequent Flyer Program Benefits among Different Groups

To ensure the validity of the six most important frequent flyer program benefits selected by 403 respondents, a chi-square test was used to test the variations between the choices of frequent flyer program benefits and different groups. The six most important frequent flyer program benefits were upgrade, free ticket, VIP lounge, priority reservation, mileage earned from airline partners, and priority boarding. The variables for the different groups included gender, age, occupation, and country of residence. A statistically significant level was 0.05 ($p < 0.05$). Table 5 summarizes the results of the variations between the various groups and the six choices of frequent flyer program benefits.

Gender. In terms of gender groups, the results of Chi-Square showed a statistical significance for priority reservation ($\chi^2=7.561$, $p=0.006$). For a total of 403 respondents, 50.8% of the males and 35% of the female selected priority reservation as a preferred benefit. In addition, priority reservation was the fifth most important benefit for both the male and the female groups. Therefore, priority reservation was retained to be used in Stage Two.

Age. With regard to the age groups, the results of the Chi-Square presented a statistically significant difference toward priority boarding ($\chi^2=15.506$, $p=0.004$). The results indicated that 56.1% of respondents aged 51-60, 44.9% of respondents aged 41-50, 39.1% of respondents aged 61 and above, 32.5% of respondents aged 18-30, and 28.8% of respondents aged 31-40 selected priority boarding as an important benefit of frequent flyer programs. Therefore, priority boarding was also retained to be used in Stage Two.

Occupation. The results of the Chi-Square showed statistically significant differences in priority reservation ($\chi^2=21.899$, $p=0.022$) and mileage earned from airline partners ($\chi^2=27.021$, $p=0.006$). For the total of 403 respondents, only two respondents worked for the government while two worked in the agriculture industry. The two government respondents and three tourism industry respondents selected priority boarding. However, respondents who worked in the government did not chose mileage earned from airline partners, while the two respondents in the agriculture industry preferred this benefit. Therefore, priority reservation and mileages earned from airline partners were kept to be utilized in Stage Two.

Country of residence. The results of the Chi-Square did not show a statistical significance to any benefit when compared with the country of residence of the

respondents. Consequently, the six most important benefits of frequent flyer program (upgrade, free ticket, VIP lounge, priority reservation, mileage earned from airline partners, and priority boarding) were utilized in the conjoint design of Stage Two.

Table 5

Comparison among Various Groups and the Six Frequent Flyer Program Benefits

Attributes	Gender groups		Age groups		Occupation groups		Countries of residence	
	χ^2	p	χ^2	p	χ^2	p	χ^2	p
Upgrade	0.015	0.902	18.433	0.159	8.226	0.867	0.168	0.682
Free ticket	0.531	0.467	0.565	0.590	14.486	0.283	1.051	0.300
VIP lounge	0.182	0.670	10.155	0.161	21.582	0.406	0.108	0.743
Priority reservation	7.561	0.006*	10.284	0.139	21.899	0.022*	0.968	0.325
Mileages earned from airline partners	2.218	0.137	2.005	0.708	27.021	0.006*	0.605	0.438
Priority boarding	0.683	0.410	15.607	0.004*	15.602	0.054	0.028	0.867

Note. *p<0.05

Summary

The purpose of Stage One was to identify the six most important frequent flyer program benefits to be utilized in Stage Two of this study. These six were identified as upgrade, free ticket, VIP lounge, priority reservation, mileage earned from airline partners, and priority boarding. A chi-square was utilized to examine the variations among different groups and the six choices of frequent flyer program benefits. The results of a chi-square showed that only: (a) a significant difference in priority reservation when compared with gender groups, (b) a significant difference in priority boarding when compared with age groups, and (c) a significant differences in priority reservation and mileage earned from airline partners when compared with occupational groups. Consequently, these six benefits were retained to be employed in the conjoint design of Stage Two.

Stage Two Findings

Demographic Information of Respondents

The results of the frequency distribution of the demographic characteristics of the respondents are presented in this section (Table 6). The demographic variables comprised of gender, age, occupation, and residential country. For the total of 389 respondents who were 18 years or older and had traveled between the United States and countries in Asia, 61.7% respondents were male ($n=240$), and 38.3% were female ($n=149$). In addition, 31.6% were between 31 and 40 years old ($n=123$), 29.8% were between 41 and 50 years old ($n=116$), 26.7% were between 18 and 30 years old ($n=104$), 10.5% were between 51 and 60 years old ($n=41$), and 1.0% were 61 years old and above ($n=4$). In terms of occupations, 30.6% respondents worked at business ($n=119$), 22.6% respondents worked in information technology industry ($n=88$), 19.3% respondents worked in manufacturing industry ($n=75$), 11.3% respondents worked in finance and insurance industry ($n=44$), 9.0% respondents chose “others” for this item ($n=35$). In addition, 4.4% respondents had education related job ($n=17$), 1.8% respondents worked in tourism industry ($n=7$). However, only 1.0% respondents worked in the government ($n=4$) and no respondents worked in the agriculture, fishery, forestry, mining industry

($n=0$). Finally, 62.5% respondents lived in the United States ($n=243$), and 37.5% respondents resided in the outside United States.

Table 6

Demographic Characteristics of Respondents

Variable	Items	<i>n</i>	%
Gender	Male	240	61.7
	Female	149	38.3
Age	18-30 years old	104	26.7
	31-40 years old	123	31.6
	41-50 years old	116	29.8
	51-60 years old	41	10.5
	61 years old and above	4	1.0
Occupation	Manufacturing	75	19.3
	Governments	4	1.0
	Education	17	4.4
	Tourism industry	7	1.8
	Business	119	30.6
	Finance and insurance industry	44	11.3
	Information technology industry	88	22.6
	Others	35	9.0
Country of residence	The United States	243	62.5
	Non-United States	146	37.5

Membership Information of Frequent Flyer Programs

The frequency distributions of the membership information of frequent flyer program are described in this section. The membership information of frequent flyer program includes the number and names of frequent flyer programs which respondents enrolled in, the number of business trips between the United States and countries in Asia in the past twelve months, total mileage respondents traveled between the United States and countries in the Asian in the past twelve months, and what kinds of benefits respondents redeemed in the past twelve months.

Number of frequent flyer programs which respondents enrolled in. From the valid sample of 389 respondents, 38.3% respondents were enrolled in two frequent flyer programs ($n=149$), 31.1% respondents participated in one frequent flyer program ($n=121$). In addition, 16.7% respondents were enrolled in three frequent flyer programs ($n=65$), 5.1% respondents had membership in four frequent flyer programs ($n=20$), 2.8% respondents joined five frequent flyer programs ($n=11$), and 1.8% respondents signed up over five frequent flyer programs ($n=7$). However, 4.1% respondents did not enroll in any frequent flyer program ($n=16$).

Table 7

Number of Frequent Flyer Programs which Respondents Enrolled in

Number of frequent flyer programs	<i>n</i>	%
0	16	4.1
1	121	31.1
2	149	38.3
3	65	16.7
4	20	5.1
5	11	2.8
Over 5	7	1.8

Frequent flyer programs of airlines which respondents enrolled in. As Table 8

shows, the top five frequent flyer programs of airlines which respondents were enrolled in were EVA Airways (19.2% respondents, $n=70$), China Airlines (17.3% respondents, $n=63$), United Airlines (14.8% respondents, $n=54$), American Airlines (13.5% respondents, $n=49$), and Cathay Pacific (11.8% respondents, $n=43$).

Table 8

Frequent Flyer Program of Airlines which Respondents Enrolled in

Frequent flyer program of airlines	<i>n</i>	%
Air Canada	1	0.3
Air China	8	2.2
Air France	3	0.8
Air Macau	2	0.5
Air Nippon	2	0.5
Asia Miles	6	1.6
British Airways	7	1.9
Cathay Pacific	43	11.8
China Eastern Airlines	2	0.5
China Southern Airlines	2	0.5
Emirates	1	0.3
Hong Kong Dragon Airlines	5	1.4
Japan Asia Airways	16	4.4
KLM Asia	1	0.3
Korean Air	7	1.9
Lufthansa Airlines	3	0.8
Malaysia Airlines	1	0.3
Qantas Airways	2	0.5

Table 8

Frequent Flyer Program of Airlines which Respondents Enrolled in

Frequent flyer program of airlines	<i>n</i>	%
Shanghai Airlines	2	0.5
Shanghai Airlines	2	0.5
Singapore Airlines	13	3.6
Thai Airlines	4	1.1
Virgin Airlines	4	1.1
Missing	25	6.9
None	16	4.4

Number of business trips between the United States and countries in Asia in the past twelve months. About 44.2% respondents of total sample had traveled between the United States and countries in Asia at least one time in the past twelve months ($n=172$), 40.1% respondents had traveled two to four times in the past twelve months ($n=156$), 11.1% respondents had traveled five to seven times in the past twelve months ($n=43$), and 2.8% respondents had traveled eight to ten times in the past twelve months. However, only 1.8% respondents had traveled over ten times between the United States and countries in Asia in the past twelve months.

Table 9

Number of Business Trips between the United States and Countries in Asia in the Past

Twelve Months

Number of business trips	<i>n</i>	%
1	172	44.2
2~4	156	40.1
5~7	43	11.1
8~10	11	2.8
Over 10	7	1.8

Total mileage of business trips traveled between the United States and countries in Asia in the past twelve months. Out of total sample of 384 business travelers, 48.1% business travelers were less frequent flyers (under 20,000 miles) ($n=187$), 33.4% business travelers were frequent flyers (21,000~55,000 miles) ($n=130$), and 17.2% business travelers were most frequent flyers (56,000 and over miles) ($n=67$).

Table 10

Total Mileage Respondents Traveled between the United States and Countries in Asia in the Past Twelve Months

Types of travelers	<i>n</i>	%
Less frequent flyers (under 20,000 miles)	187	48.1
Frequent flyers (21,000-55,000 miles)	130	33.4
Most frequent flyers (56,000 miles and over)	67	17.2
Missing	5	1.3

Benefits business redeemed in the past twelve months. Of the valid sample of 372 respondents, 36% of the respondents redeemed upgrades ($n=134$), 30.1% of the respondents used VIP lounge services ($n=112$), 12.8% respondents redeemed non-travel related rewards ($n=58$), and 12.6% respondents got free ticket ($n=57$). Nevertheless, 20.5% respondents did not redeem any benefits in the past twelve months.

Table 11

Benefits Respondents Redeemed in the Past Twelve Months

Benefits respondents redeemed	<i>n</i>	%
Free ticket	57	15.3
Upgrades	134	36.0
VIP lounge	112	30.1
Non-travel related rewards	58	15.6
Others (None)	93	25.0
Missing	17	4.6

Other expectations of frequent flyer program benefits. A total of 41 respondents answered the open-ended question regarding additional expectations about frequent flyer program benefits which were not included in this study. Three new benefits not included in existing frequent flyer programs emerged: free parking, free access to internet in the airport or VIP lounge, and no expiration for accumulated miles. The other expectations, such as spouse upgrade, exclusive check-in counter, online check-in, booking guarantee for the highest level membership, discount on duty free shop, or e-shopping, extra baggage comprised existing frequent flyer programs, but were not included in the Stage Two. Table 12 summarizes the results.

Table 12

Expectations of Business Travelers regarding Frequent Flyer Program Benefits which Are Not Included in This Study

Expectations for frequent flyer program benefits	<i>n</i>	%
Free access to internet in the airport or VIP lounge	10	24.4
Free parking	7	17.0
Spouse upgrade	5	12.2
No expiration for accumulated mileages	4	9.8
Booking guarantee for highest level membership	3	7.3
Extra baggage for flights between US and Asian countries	2	4.9
Priority baggage	2	4.9
Priority security line	2	4.9
Transfer credits to spouse and family members	1	2.4
Discount on duty free shop	1	2.4
Discount on in-flight shopping	1	2.4
Double mileages earned in low season	1	2.4
Online check-in	1	2.4
Free vacation program	1	2.4
Total	41	100.0

Analysis of Frequent Flyer Program Benefit Combinations

Frequency distribution was used to investigate the preferences of business travelers regarding frequent flyer program benefit combinations. The mean of each card is presented in this section.

Among the eight combination cards of frequent flyer program benefits, Card 5 had the highest mean (Mean=83.11) followed by Card 3 (Mean=63.62), Card 8 (Mean=63.50), Card 2 (Mean=59.15), Card 6 (Mean=57.86), Card 4 (Mean=53.80), Card 7 (Mean=53.52), and Card 1 (Mean=48.30). Therefore, respondents showed the highest preferences for Card 5, which included upgrade with lower limit mileage, free ticket with lower limit mileage, VIP lounge with lower level membership use, priority reservation with lower level membership, mileage earned from airline partners allowed, and priority boarding allowed was much preferred by respondents. In contrast, Card 1 was the least preferred by respondents, which contained upgrade with higher mileage limit, free ticket with higher mileage limit, VIP lounge with higher level membership use, priority reservation with lower level membership use, mileage earned from airline partners allowed, and no priority boarding.

A *t*-test and ANOVA were employed to analyze data to determine the preferences

of different groups regarding combination cards of frequent flyer program benefits. The results are presented in the next section.

Analysis of Frequent Flyer Program Benefit Combinations among Various Groups

This section presents the variations among the choice of benefit combination cards and different groups. The variables included gender, age, occupation, and country of residence. The *t*-test and ANOVA were used for analyzing data.

Gender. The results of variations in combination cards 1 to 8 between male and female are presented in Table 13. The results of the *t*-test did not show a statistically significant difference in the means of the cards for both male and female respondents. For the males, Card 5 had the highest mean (Mean=84.04) while Card 1 had the lowest (Mean=48.17). In the females, Card 5 also had the highest mean (Mean=81.61), while Card 1 also had the lowest (Mean=48.52). Consequently, both male and female respondents had the highest means as to Card 5.

Table 13

Comparison of Combination Card 1 to 8 between Males and Females

Cards	Gender	<i>n</i>	Mean	<i>t</i>	<i>p</i>
1	Male	240	48.17	-0.162	0.872
	Female	149	48.52		
2	Male	240	59.08	-0.090	0.929
	Female	149	59.26		
3	Male	240	64.58	1.126	0.261
	Female	149	62.08		
4	Male	240	53.33	-0.551	0.582
	Female	149	54.56		
5	Male	240	84.04	1.437	0.151
	Female	149	81.61		
6	Male	240	58.13	0.326	0.745
	Female	149	57.44		
7	Male	240	53.71	0.228	0.820
	Female	149	53.22		
8	Male	240	63.75	0.345	0.731
	Female	149	63.09		

Note. * $p < 0.05$

Age. ANOVA was employed in this section to investigate the variations in combination cards 1 to 8 among various age groups. The results are summarized in Table 14. The results of ANOVA showed a statistically significant difference among the means for Card 5 ($f=2.540$, $p=0.04$). Specifically, in terms of the mean, the group age 51 to 60 had the highest mean on Card 5, while the group age 61 and above had the lowest mean on it. This suggest that, except for the group age 61 and above, all age groups had the highest mean on the preferences set forth on Card 5. In addition, all age groups had the lowest mean regarding the combination on Card 1.

Table 14

Comparison of Combination Card 1 to 8 among Various Age Groups

Cards	Age groups	<i>n</i>	Mean	F	p
1	18-30	104	49.04	0.202	0.937
	31-40	123	47.56		
	41-50	116	49.05		
	51-60	41	47.32		
	61 and above	4	42.50		
2	18-30	104	59.62	0.621	0.648
	31-40	123	59.11		
	41-50	116	60.17		
	51-60	41	56.83		
	61 and above	4	47.50		
3	18-30	104	62.21	1.361	0.247
	31-40	123	63.74		
	41-50	116	65.60		
	51-60	41	64.15		
	61 and above	4	42.50		

Table 14 (continued)

Comparison of Combination Card 1 to 8 among Various Age Groups

Cards	Age groups	<i>n</i>	Mean	F	p
4	18-30	104	55.77	0.375	0.827
	31-40	123	53.82		
	41-50	116	52.24		
	51-60	41	53.90		
	61 and above	4	52.50		
5	18-30	104	82.02	2.540	0.040*
	31-40	123	81.46		
	41-50	116	84.74		
	51-60	41	87.80		
	61 and above	4	67.50		
6	18-30	104	58.37	0.548	0.701
	31-40	123	56.90		
	41-50	116	58.62		
	51-60	41	58.54		
	61 and above	4	45.00		

Table 14 (continued)

Comparison of Combination Card 1 to 8 among Various Age Groups

Cards	Age groups	<i>n</i>	Mean	F	p
7	18-30	104	54.81	0.405	0.805
	31-40	123	54.55		
	41-50	116	51.98		
	51-60	41	51.95		
	61 and above	4	52.50		
8	18-30	104	63.85	0.464	0.762
	31-40	123	64.31		
	41-50	116	63.19		
	51-60	41	62.44		
	61 and above	4	52.50		

Note. * $p < 0.05$

Occupation. ANOVA was employed in this section to investigate the variations in combination cards 1 to 8 among various occupation groups. The results are summarized in Table 15. The results of the ANOVA did not show a statistically significant difference level on the cards for this variable. In terms of the mean, each occupation group had the highest mean on Card 5 and the lowest on Card 1. Therefore, there was no statistically significant difference between the means with regard to occupation.

Table 15

Comparison of Combination Card 1 to 8 among Different Occupation Groups.

Cards	Occupation groups	<i>n</i>	Mean	F	p
1	Manufacturing	75	46.00	0.823	0.569
	Governments	4	67.50		
	Education	17	47.65		
	Tourism industry	7	51.43		
	Business	119	49.33		
	Finance and insurance industry	44	45.45		
	Information technology industry	88	49.55		
	Others	35	47.71		
2	Manufacturing	75	56.40	0.485	0.845
	Governments	4	67.50		
	Education	17	60.59		
	Tourism industry	7	62.86		
	Business	119	60.25		
	Finance and insurance industry	44	60.23		
	Information technology industry	88	59.09		
	Others	35	57.71		

Table 15 (continued)

Comparison of Combination Card 1 to 8 among Different Occupation Groups

Cards	Occupation groups	<i>n</i>	Mean	F	p
3	Manufacturing	75	65.47	0.526	0.815
	Governments	4	70.00		
	Education	17	56.47		
	Tourism industry	7	61.43		
	Business	119	64.71		
	Finance and insurance industry	44	63.86		
	Information technology industry	88	62.39		
	Others	35	62.00		
4	Manufacturing	75	49.33	0.765	0.617
	Governments	4	62.50		
	Education	17	55.29		
	Tourism industry	7	60.00		
	Business	119	54.87		
	Finance and insurance industry	44	53.86		
	Information technology industry	88	53.98		
	Others	35	56.29		

Table 15 (continued)

Comparison of Combination Card 1 to 8 among Different Occupation Groups

Cards	Occupation groups	<i>n</i>	Mean	F	p
5	Manufacturing	75	81.00	0.333	0.939
	Governments	4	92.50		
	Education	17	84.71		
	Tourism industry	7	81.43		
	Business	119	83.36		
	Finance and insurance industry	44	83.86		
	Information technology industry	88	83.18		
	Others	35	82.86		
6	Manufacturing	75	57.73	0.939	0.476
	Governments	4	77.50		
	Education	17	58.82		
	Tourism industry	7	58.57		
	Business	119	58.24		
	Finance and insurance industry	44	57.27		
	Information technology industry	88	55.23		
	Others	35	61.50		

Table 15 (continued)

Comparison of Combination Card 1 to 8 among Different Occupation Groups

Cards	Occupation groups	<i>n</i>	Mean	F	p
7	Manufacturing	75	57.73	0.901	0.505
	Governments	4	55.00		
	Education	17	55.88		
	Tourism industry	7	47.14		
	Business	119	53.11		
	Finance and insurance industry	44	54.32		
	Information technology industry	88	51.70		
	Others	35	49.43		
8	Manufacturing	75	64.40	1.235	0.283
	Governments	4	70.00		
	Education	17	69.41		
	Tourism industry	7	55.71		
	Business	119	60.42		
	Finance and insurance industry	44	66.59		
	Information technology industry	88	64.66		
	Others	35	63.14		

Note. * $p < 0.05$

Country of residence. This section presents the variations in combination cards 1 to 8 between business travelers who lived in the United States and those who lived outside the United States. The results are summarized in Table 16. The results of the *t*-test showed a statistically significant difference in Card 3 ($t=-1.990$, $p=0.047$) and Card 8 ($t=-3.835$, $p=0.000$) between the means. Specifically in terms of mean, the respondents residing outside the United States had a higher mean on Card 3 than U.S. residents. In addition, U.S. respondents had a higher mean on Card 8 than respondents outside the United States. However, overall both respondents residing inside and outside the United States had the highest mean on Card 5.

Table 16

*Comparison of Combination Card 1 to 8 between Business Travelers Living in the United**States and Outside the United States*

Cards	Residential countries	<i>n</i>	Mean	<i>t</i>	<i>p</i>
1	U.S.	243	48.11	-0.211	0.833
	Non-U.S.	145	48.55		
2	U.S.	243	58.15	-1.443	0.150
	Non-U.S.	145	60.90		
3	U.S.	243	62.02	-1.990	0.047*
	Non-U.S.	145	66.21		
4	U.S.	243	53.54	-0.346	0.730
	Non-U.S.	145	54.28		
5	U.S.	243	83.83	1.072	0.284
	Non-U.S.	145	82.00		
6	U.S.	243	57.44	-0.428	0.669
	Non-U.S.	145	58.34		
7	U.S.	243	53.13	-0.470	0.669
	Non-U.S.	145	54.14		
8	U.S.	243	66.26	-3.835	0.000*
	Non-U.S.	145	58.97		

Note. * $p < 0.05$

Analysis of Each Attribute and Level

Conjoint analysis is a choice-based method that provides different combinations to respondents at one time and asks them to evaluate them. After analyzing the results, the part-worth represents the preferences of respondents (Sawtooth Software, 2006).

According to Gustafsson et al. (2001) and Hair et al. (1998), the part-worth showed the preference levels of respondents. The higher part-worth represented the higher preference of respondents while the lower part-worth depicted the lower preference of respondents. Moreover, the positive part-worth illustrated that respondents preferred this level while the negative one indicated that respondents did not preferred this level.

Furthermore, the importance (%) also represents the preference levels of respondents.

The higher percentages of the attributes show the higher preferences of respondents while the lower percentages of the attributes represent the lower preferences of respondents.

Therefore, conjoint analysis was utilized to analyze the part-worth and importance of each attribute and level.

According to the results of conjoint analysis, the order of the six attributes were upgrade (21.64%), free ticket (21.03%), priority boarding (16.37%), priority reservation (14.76%), mileage earned from airline partners (14.37%), and VIP lounge services

(11.84%). In terms of each level of attributes, the part-worth of upgrade with 15,000-30,000 miles was 5.5781 while 31,000-50,000 miles was -5.5781. The part-worth of free ticket with 60,000-90,000 miles was 5.5787 but 91,000-120,000 miles was -5.5785. The part-worth of VIP lounge with lower level membership use was 2.0376 while higher level membership use was -2.0376. The part-worth of priority reservation with lower level membership use was 1.8512; however, the higher level membership was -1.8512. The part-worth of providing mileage earned from airline partners was 3.1558 while not provide mileage earned from airline partners was -3.1558. Finally, the part-worth of providing priority boarding was 4.2092 but not provide priority boarding was -4.2092. Therefore, respondents preferred the lower mileages for upgrade and free ticket. Respondents also preferred having a lower limitation for using the VIP lounge and priority reservation services. In addition, respondents hoped that frequent flyer program benefits would include mileage earned from airlines partners and priority boarding services. Because Pearson's R was 0.99, the validity of results of this study reaches 99%. Table 17 shows the part-worth of the total sample and Figure 2 depicts the importance of attributes.

Table 17

Part-Worth of Each Attribute

Attributes	Levels	Part-worth	Importance%
Upgrade	15,000-30,000 miles	5.5781	21.64
	31,000-50,000 miles	-5.5781	
Free ticket	60,000-90,000 miles	5.5787	21.03
	91,000-120,000 miles	-5.5785	
VIP lounge	Second level membership and over	2.0376	11.84
	Third level membership and over	-2.0376	
Priority reservation	Second level membership and over	1.8512	14.76
	Third level membership and over	-1.8512	
Mileage earned from airline partners	Yes	3.1558	14.37
	No	-3.1558	
Priority Boarding	Yes	4.2092	16.37
	No	-4.2092	
Constant		60.3596	
Total sample	389		
	Pearson's R= 0.99 (p<0.05)		
	Kendall tau= 1.00 (p<0.05)		

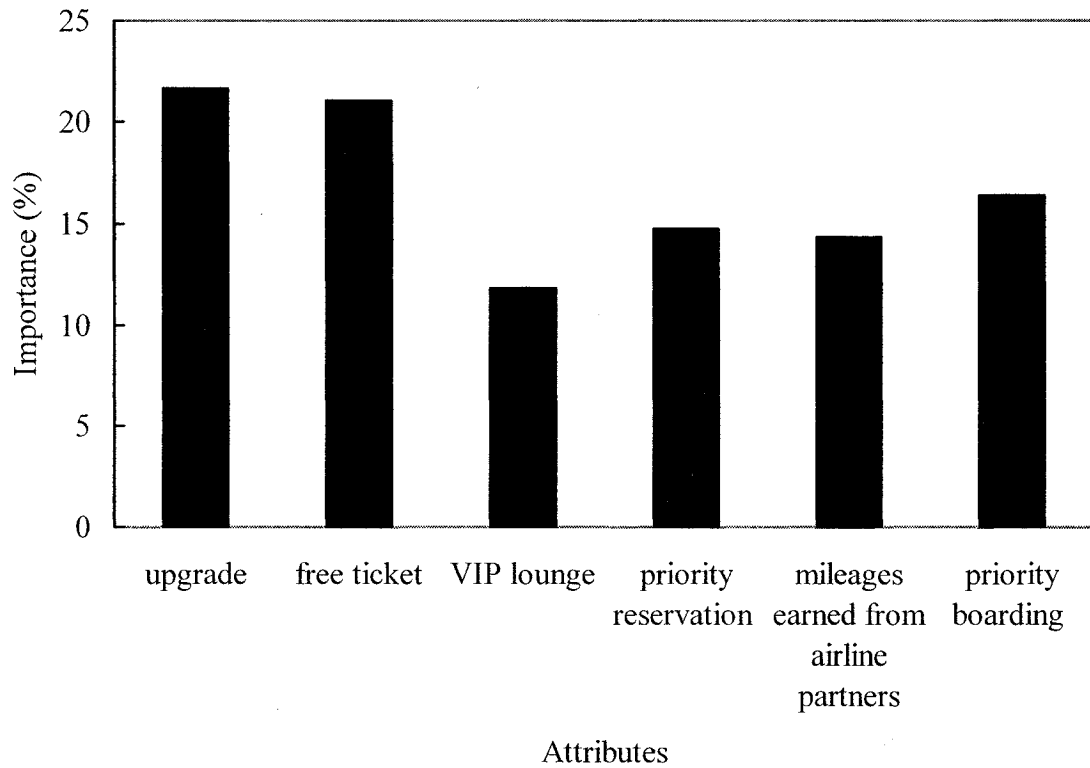


Figure 2. Importance given by the sample to the six benefits/attributes.

Preferences of Different Level Flyers

Conjoint analysis was utilized to analyze the preferences of various levels of frequent flyers (less frequent flyers, frequent flyers, and most frequent flyers) to compare the differences among these three groups. In terms of preferences of less frequent flyers, the importance order of six attributes were free ticket (21.49%), upgrade (21.16%), priority boarding (16.86%), mileage earned from airline partners (14.48%), priority

reservation (14.16%), and VIP lounge (11.84%). However, frequent flyers see upgrading as the most important (22.31%) followed by free ticket (21.54%), priority reservation (15.56%), priority boarding (15.24%), mileage earned from airline partners (13.96%), and VIP lounge (11.39%). The most frequent flyers also view the upgrade as the most important (21.60%) followed by free ticket (19.12%), priority boarding (17.20%), mileage earned from airline partners (15.29%), priority reservation (14.61%), and VIP lounge (12.17%). For the levels of each attribute, these three groups all prefer the lower limit. Table 18 represents the summary of the part-worth and importance of different groups.

Table 18

Part-Worth of Different Levels of Frequent Flyers

Attributes	Levels	Part-worth of different membership levels					
		LFFs	%	FFs	%	MFFs	%
Upgrade	1	5.3610	21.16	5.8808	22.31	5.5410	21.60
	2	-5.3610		-5.8808		-5.5410	
Free ticket	1	5.3209	21.49	5.9215	21.54	5.9515	19.12
	2	-5.3209		-5.9215		-5.9515	
VIP lounge	1	2.0053	11.84	1.9680	11.39	2.1082	12.17
	2	-2.0053		-1.9680		-2.1082	
Priority reservation	1	1.6310	14.16	1.7742	15.56	2.3694	14.61
	2	-1.6310		-1.7742		-2.3694	
Mileages earned from airline partners	1	3.1283	14.48	2.7432	13.96	4.1978	15.29
	2	-3.1283		-2.7432		-4.1978	
Priority boarding	1	4.1845	16.86	3.9428	15.24	4.9813	17.20
	2	-4.1845		-3.9428		-4.9813	
Total sample	389						
Constant		60.0668		60.5707		60.5410	
Pearson's R		1.00 (p<0.05)		0.99 (p<0.05)		0.99 (p<0.05)	
Kendall's tau		1.00 (p<0.05)		1.00 (p<0.05)		1.00 (p<0.05)	

Note. LFFs=less frequent flyers; %=importance; FFs=frequent flyers; MFFs=most frequent flyers; Upgrade level 1=15,000~30,000 miles; Upgrade level 2=31,000~50,000 miles; Free ticket level 1=60,000~90,000 miles; Free ticket level 2=91,000~120,000 miles; VIP lounge level 1=second level membership and over; VIP lounge level 2=third level membership and over; Priority reservation level 1=second level membership and over; Priority reservation level 2=third level membership and over; Mileages earned from airline partners level 1=yes; Mileages earned from airline partners level 2=no; Priority boarding level 1=yes; Priority boarding level 2=no.

Preferences of Different Groups

Gender. The results showed the importance order for males was upgrade (22.44%), free ticket (20.92%), priority boarding (15.69%), priority reservation (15.41%), mileage earned from airline partners (14.40%), and VIP lounge (11.13%). In contrast, the importance order for females was free ticket (21.19%), upgrade (20.35%), priority boarding (17.46%), mileages earned from airline partners (14.32%), priority reservation (13.70%), and VIP lounge (12.97%). The part-worth and importance to males and females are indicated in Table 19.

Table 19

Part-Worth and Importance of Gender

Attributes	Levels	Part-worth and importance of gender			
		Male	%	Female	%
Upgrade	15,000-30,000 miles	5.8594	22.44	5.1250	20.35
	31,000-50,000 miles	-5.8594		-5.1250	
Free ticket	60,000-90,000	5.9219	20.92	5.0260	21.19
	91,000-120,000	-5.9219		-5.0260	
VIP lounge	Second level membership	1.9427	11.13	2.1904	12.97
	Third level membership	-1.9427		-2.1904	
Priority reservation	Second level membership	1.9323	15.41	1.7206	13.70
	Third level membership	-1.9323		-1.7206	
Mileages earned from airline partners	Yes	3.1615	14.40	3.1468	14.32
	No	-3.1615		-3.1468	
Priority boarding	Yes	4.2135	15.69	4.2022	17.46
	No	-4.2135		-4.2022	
Total sample	389				
Constant		60.5990		59.9740	

Table 19 (continued)

Part-Worth and Importance of Gender

Attributes	Levels	Part-worth and importance of gender			
		Male	%	Female	%
Pearson's R		0.99	(p<0.05)	1.00	(p<0.05)
Kendall's tau		0.92	(p<0.05)	1.00	(p<0.05)

Note. %= importance.

Age. According to the results, the importance order of attributes for those of age 18 to 30 years old was free ticket (19.72%), upgrade (19.43%), priority boarding (17.22%), priority reservation (15.78%), mileage earned from airline partners (15.43%), and VIP lounge (12.41%). In terms of the 31 to 40 age range, the importance order was free ticket (21.56%), upgrade (19.02%), priority boarding (18.19%), priority reservation (15.47%), mileage earned from airline partners (13.57%), and VIP lounge (12.20%). For those age 41 to 50, the importance order was upgrade (26.17%), free ticket (22.36%), mileage earned from airline partners (13.96%), priority boarding (13.69%), priority reservation (12.60%), and VIP lounge (11.23%). For the 51 to 60 year range, the importance order was upgrade (22.91%), free ticket (19.42%), priority reservation (16.36%), priority boarding (15.64%), mileage earned from airline partners (14.68%),

and VIP lounge (11.00%). However, for the group 61 years old and above, priority boarding was the most important (19.79%) followed by free ticket (18.40%), mileage earned from airline partners (18.01%), upgrade (15.38%), priority reservation (14.43%), and VIP lounge (13.99%). Table 20 shows the summary of part-worth and importance of different age groups.

Table 20

Part-Worth and Importance of Age Groups

Attributes		Part-worth and importance of age groups									
		L	Age1	%	Age2	%	Age3	%	Age4	%	Age5
Upgrade	1	4.8437	19.43	5.1209	19.02	6.5841	26.17	6.4634	22.91	0.3125	15.38
	2	-4.8437		-5.1209		-6.5841		-6.4634		-0.3125	
Free ticket	1	5.0120	19.72	5.8343	21.56	5.6789	22.36	6.2195	19.42	3.4375	18.40
	2	-5.0120		-5.8343		-5.6789		-6.2195		-3.4375	
VIP lounge	1	2.3438	12.41	2.0539	12.20	1.5841	11.23	2.2561	11.00	4.6875	13.99
	2	-2.3438		-2.0539		-1.5841		-2.2561		-4.6875	
Priority reservation	1	1.5505	15.78	1.4644	15.47	2.2091	12.60	2.9268	16.36	0.9375	14.43
	2	-1.5505		-1.4644		-2.2091		-2.9268		-0.9375	
Mileages from airline partners	1	2.9207	15.43	2.9278	13.57	3.5885	13.96	3.2317	14.68	2.1875	18.01
	2	-2.9207		-2.9278		-3.5884		-3.2317		-2.1875	
Priority boarding	1	4.2909	17.22	3.9421	18.19	3.9978	13.69	5.3049	15.64	4.0625	19.79
	2	-4.2909		-3.9421		-3.9978		-5.3049		-4.0625	
Constant		60.7091		60.1819		60.7004		60.3659		50.3125	
Pearson's R		0.99 (p<0.05)		1.00 (p<0.05)		0.99 (p<0.05)		0.99 (p<0.05)		0.97 (p<0.05)	
Kendall's tau		1.00 (p<0.05)		1.00 (p<0.05)		1.00 (p<0.05)		0.92 (p<0.05)		0.86 (p<0.05)	

Note. Age1=age 18-30 years old; %=importance; Age 2=age 31-40 years old; Age 3=age 41-50 years old; Age 4=age 51-60 years old; Age 5=age 61 years old and above; Upgrade level 1=15,000-30,000 miles; Upgrade level 2=31,000-50,000 miles; Free ticket level 1= 60,000-90,000 miles; Free ticket level 2=91,000-120,000 miles; VIP lounge level 1=second level membership and over; VIP lounge level 2=third level membership and over; Priority reservation level 1=second level membership and over; Priority reservation level 2=third level membership and over; Mileage earned from airline partners level 1=yes; Mileage earned from airline partners level 2=no; Priority boarding level 1=yes; Priority boarding level 2=no.

Occupation. According to the results, the preference order of attributes of those in the manufacturing industry were free ticket (25.64%), upgrade (21.40%), priority boarding (15.53%), priority reservation (13.57%), mileage earned from airline partners (13.29%), and VIP lounge (10.57%). In contrast, those working in the government preferred upgrade (22.52%), priority boarding (17.33%), mileage earned from airline partners (17.12%), priority reservation (16.59%), free ticket (14.18%), and VIP lounge (12.26%). However, government employees also preferred that only the third level of membership and above should be able to use the VIP lounge services. For those in the education field, the importance order was mileage earned from airline partners (21.07%), priority boarding (20.68%), upgrade (18.40%), free ticket (17.91%), VIP lounge (12.34%), and priority reservation (9.59%). They also preferred that third level of membership and above be able to can get priority reservation. For those who work in the tourism industry, mileage earned from airline partners (23.74%) was the most important benefits, followed by upgrade (19.49%), priority reservation (18.39%), priority boarding (15.73%), VIP lounge (12.62%), and free ticket (10.02%).

Continuing on the importance order of attributes for people in the business industry was upgrade (25.09%), free ticket (19.06%), priority reservation (16.09%), priority

boarding (14.77%), mileages earned from airline partners (12.92%), and VIP lounge (12.07%). The order of preference for people in the finance and insurance industry were free ticket (23.71%), upgrade (19.56%), priority boarding (17.11%), mileage earned from airline partners (15.29%), VIP lounge (13.18%), and priority reservation (11.15%). For the people who work in the information technology industry, the importance order was free ticket (21.52%), upgrade (19.46%), priority boarding (16.70%), priority reservation (15.26%), mileage earned from airline partners (15.21%), and VIP lounge (11.86%). For those who chose “others” for their occupation, the preference order was upgrade (20.46%), priority boarding (19.79%), free ticket (17.69%), priority reservation (17.60%), mileage earned from airline partners (12.90%), and VIP lounge (11.56%). Tables 21 and 22 show the part-worth and importance of occupation groups.

Table 21

Part-Worth and Importance of Occupation Groups 1 to 4

Attributes	Levels	The part-worth and importance of occupation 1 to 4							
		O1	%	O2	%	O3	%	O4	%
Upgrade	1	5.4667	21.40	6.5625	22.52	4.0441	18.40	6.2500	19.49
	2	-5.4667		-6.5625		-4.0441		-6.2500	
Free ticket	1	7.4667	25.64	1.5625	14.18	5.4147	17.91	1.6071	10.02
	2	-7.4667		-1.5625		-5.4147		-1.6071	
VIP lounge	1	1.4333	10.57	-0.9375	12.26	3.0147	12.34	3.0357	12.62
	2	-1.4333		0.9375		-3.0147		-3.0357	
Priority reservation	1	0.7667	13.57	2.8125	16.59	-0.0735	9.59	3.7500	18.39
	2	-0.7667		-2.8125		0.0735		-3.7500	
Mileage earned from airline partners	1	2.2667	13.29	4.0625	17.12	4.4853	21.07	3.0357	23.74
	2	-2.2667		-4.0625		-4.4853		-3.0357	
Priority boarding	1	3.4333	15.53	5.3125	17.33	5.9559	20.68	4.1071	15.73
	2	-3.4333		-5.3125		-5.9559		-4.1071	
Constant		59.8333		70.3125		61.1029		59.8214	
Pearson's R		0.99 (p<0.05)		0.96 (p<0.05)		0.99 (p<0.05)		1.00 (p<0.05)	
Kendall's tau		0.85 (p<0.05)		0.91 (p<0.05)		0.92 (p<0.05)		1.00 (p<0.05)	

Note. %=importance; O1=manufacturing; O2= governments; O3=education; O4=tourism industry; %=importance; Upgrade level 1=15,000-30,000 miles; Upgrade level 2=31,000-50,000 miles; Free ticket level 1=60,000-90,000 miles; Free ticket level 2=91,000-120,000 miles; VIP lounge level 1=second level membership and over; VIP lounge level 2=third level membership and over; Priority reservation level 1=second level membership and over; Priority reservation level 2=third level membership and over; Mileages earned from airline partners level 1=yes; Mileage earned from airline partners level 2=no; Priority boarding level 1=yes; Priority boarding level 2=no.

Table 22

Part-Worth and Importance of Occupation Groups 5 to 9

Attributes	Levels	The part-worth and importance of occupation groups 5 to 9								
		O5	%	O6	%	O8	%	O9	%	%
Upgrade	1	6.1029	25.09	5.6250	22.52	5.0000	19.46	5.9250	20.46	
	2	-6.1029		-5.6250		-5.0000		-5.9250		
Free ticket	1	4.8634	19.06	6.4773	14.18	5.5114	21.52	4.2893	17.69	
	2	-4.8634		-6.4773		-5.5114		-4.2893		
VIP lounge	1	2.3634	12.07	2.3864	12.26	2.0170	11.86	1.5036	11.56	
	2	-2.3634		-2.3864		-2.0170		-1.5036		
Priority reservation	1	2.5315	16.09	1.0795	16.59	2.3011	15.26	2.1464	17.60	
	2	-2.5315		-1.0795		-2.3011		-2.1464		
Mileage earned from airline partners	1	2.8046	12.92	3.3523	17.12	4.1477	15.21	2.7893	12.90	
	2	-2.8046		-3.3523		-4.1477		-2.7893		
Priority boarding	1	3.6870	14.77	4.7159	17.33	4.2898	16.70	5.8536	19.79	
	2	-3.6970		-4.7159		-4.2898		-5.8536		
Constant		60.5357		60.6818		59.9716		60.0679		
Pearson's R		0.99 (p< 0.05)		0.99 (p< 0.05)		1.00 (p<0.05)		1.00 (p<0.05)		
Kendall's tau		1.00 (p< 0.05)		1.00 (p< 0.05)		1.00 (p<0.05)		1.00 (p<0.05)		

Note. O5=Business; O6=finance and insurance industry; O8=information technology industry; O9=others; %= importance; U=upgrade; FT=free ticket; VIP= VIP lounge; PR=priority reservation; M=mileage earned from airline partners; PB=priority boarding; Upgrade level 1=15,000-30,000 miles; Upgrade level 2=31,000-50,000 miles; Free ticket level 1=60,000-0,000 miles; Free ticket level 2=91,000-120,000 miles; VIP lounge level 1=second level membership and over; VIP lounge level 2=third level membership and over; Priority reservation level 1=second level membership and over; Priority reservation level 2=third level membership and over; Mileage earned from airline partners level 1=yes; Mileage earned from airline partners level 2=no; Priority boarding level 1=yes; Priority boarding level 2=no.

Country of residence. According to the results as shown in Table 23, the preference in order for people who live in the United States was free ticket (21.81%), upgrade (20.58%), priority boarding (17.05)%, mileage earned from airline partners (14.64%), priority reservation (14.20%), and VIP lounge (11.72%). On the other hand, people who live outside the United States preferred upgrade (23.36%), free ticket (19.82%), priority reservation (15.57%), priority boarding (15.22%), mileage earned from airline partners (13.96%), and VIP lounge (12.07%).

Table 23

Part-Worth and Importance of Country of Residence

		The part-worth and importance of countries of residence			
Attributes	Levels	U.S	%	Non-U.S	%
Upgrade	15,000~30,000 miles	5.0509	20.58	6.4569	23.36
	31,000~50,000 miles	-5.0509		-6.4569	
Free ticket	60,000~90,000	5.9985	21.81	4.9052	19.82
	91,000~120,000	-5.9985		-4.9052	
VIP lounge	Second level membership	1.8524	11.72	2.3707	12.07
	Third level membership	-2.8524		-2.3707	
Priority reservation	Second level membership	1.5643	14.20	2.3707	15.57
	Third level membership	-1.5643		-2.3707	
Mileages earned from airline partners	Yes	3.7762	14.64	2.3017	13.96
	No	-3.7762		-2.3017	
Priority	Yes	4.9583	17.05	2.1466	15.22
Constant		60.3081		60.4741	
Pearson's R		1.00 (p< 0.05)		0.99 (p< 0.05)	
Kendall's tau		1.00 (p< 0.05)		0.92 (p< 0.05)	

Note. %= importance.

Total Part-Worth of Each Card

Chen (2006) stated that the total part-worth could be represented by the importance of each card. Table 24 shows the total part-worth of each card.

Table 24

Total Part-Worth of Each Card

Card	Upgrade	Free ticket	VIP lounge	PR	MP	PB	Total part-worth
1	31,000-50,000	91,000-120,000	Third	Second	Yes	No	48.0
2	15,000-30,000	91,000-120,000	Second	Third	Yes	No	59.5
3	15,000-30,000	60,000- 90,000	Third	Second	No	No	64.0
4	31,000-50,000	91,000-120,000	Second	Second	No	Yes	54.1
5	15,000-30,000	60,000- 90,000	Second	Second	Yes	Yes	82.8
6	15,000-30,000	91,000-120,000	Third	Third	No	Yes	57.2
7	31,000-50,000	60,000- 90,000	Second	Third	No	No	53.2
8	31,000-50,000	60,000- 90,000	Third	Third	Yes	Yes	75.0

Note. PR=priority reservation; MP=mileages earned from airline partners; PB=priority boarding.

A formula of total part-worth was to add the part-worth of every level of each card plus the constant (Chen, 2006). For example, the total part-worth of Card 5 was $5.5781+5.5787+2.0376+1.8512+3.1558+4.2092+60.3596=82.7702$. Based on these results, Card 5 obtained the highest score followed by Card 8 and Card 3. Moreover, the combinations of Card 5 were the same as the results of the total sample preferences. Therefore, Card 5 was the optimal combination for this study.

Summary

The purpose of Stage Two was to examine the preferences of business traveler regarding frequent flyer program benefits. In the variations between the choices of benefit combination cards and different groups, the age groups showed a statistically significant difference as to Card 5. The *t*-test also showed a statistically significant difference between Card 3 and Card 8 when compared with the country of residence of respondents. In addition, the total of 389 business travelers gave the highest average score to Card 5. Business travelers placed six attributes in the following order of preferences: upgrade with lower mileage limit, free ticket with lower mileage limit, priority boarding, priority reservation with lower level membership, mileage earned from airline partners, and VIP lounge services with lower level membership.

CHAPTER 5

Discussion and Conclusion

The purpose of this study was to examine the preferences of business travelers regarding the benefits of frequent flyer program. Utilizing a quantitative research method with conjoint analysis, data was collected in two stages at San Francisco International Airport from June 20 to June 28, 2007 (Stage One) and July 15 to August 3, 2007 (Stage Two). For Stage One and Stage Two, the convenient sampling method was employed. The respondents were randomly recruited around the airline check-in counters.

For Stage One, out of a total of 450 distributed questionnaires, 403 questionnaires were valid, representing the valid return rate being 89.5%. The questionnaire consisted of two parts: a list of benefits of frequent flyer programs (which were compiled from frequent flyer programs of airlines flying between the United States and Asian countries) and demographic information. For the data analysis, a frequency distribution and chi-square test were used to identify the six most important benefits and the variations in the choice of benefits among different groups.

In Stage Two, of the 500 questionnaires distributed, 389 completed questionnaires

valid a 77.8% valid return rate. The questionnaire included three parts: eight frequent flyer program benefits combination cards, membership information, and demographic information. In addition, conjoint analysis, *t*-test, and an ANOVA test were employed to analyze the preferences of respondents regarding frequent flyer program benefits and the variations in the choice of benefits among different groups. This chapter is divided into three sections. Section one discusses the major research findings, section two addresses the limitations of this study and section three contains the conclusion with suggestions to airline industry and future studies.

Discussion

This section discusses the major findings regarding the preferences of business travelers about frequent flyer program benefits. The preferences of various groups within the population of business travelers regarding frequent flyer program benefits are also analyzed.

Preferences of Business Travelers

In terms of the major research question of this study which was to identify the preferences of business travelers regarding the benefits of frequent flyer programs, the findings indicated that the top three benefits preferred by business travelers were upgrade

with lower mileage limit, free ticket with lower mileage limit, and priority boarding.

The lower three benefits were priority reservation with lower membership use, mileage earned from airline partners, and VIP lounge with lower membership use. According to the results of membership information of this study, 44.2% respondents had only one business trip between the United States and countries in Asia in the past 12 months, and 48.1% of respondents were less frequent flyers. In addition, 36% of respondents redeemed an upgrade in the past 12 months while only 15.3% redeemed free ticket because the accumulated mileages needed for free ticket was much higher than that required for an upgrade. Therefore, business travelers may prefer lower mileage and lower level of membership needed for redeeming benefits because they can more quickly reach the required mileage for redemption at an accelerated pace and thus enjoy the benefits of membership.

However, according to Great China Customer Relationship Management (2006), although free ticket and upgrade are the major benefits of frequent flyer programs, members of these programs also desire more intangible values and services such as priority boarding and priority reservation. In addition, Lu and Tsai (2004) indicated that business travelers place more emphasis on reservations check-in services than

non-business travelers.

Preferences of Different Level Flyers

The different levels of flyers, (i.e., less frequent, frequent, and most frequent) did not differ much in their preferences of frequent flyer program benefits. The top three preferred benefits for both the less frequent and most frequent flyers were upgrade with lower limit mileage, free ticket with lower limit mileage, and priority boarding. The top three preferred benefits for frequent flyers differed slightly as being upgrade with lower limit mileage, free ticket with lower limit mileage, and priority reservation with a lower membership. The VIP lounge service for these groups was the least important of these six benefits, possibly because even non-members of airlines can obtain VIP lounge privileges through a variety of ways. According to Goh and Uncles (2003), there are several ways to enjoy the VIP lounge services. Travelers can use the credit card of airline partners, get a first- or business-class ticket, or trade in mileage. Moreover, some companies offer business travelers a business class ticket for business trips (Suzuki, 2002). Therefore, business travelers put the VIP lounge services as only the sixth most important benefits.

Preferences of Male and Female Business Travelers

Both male and female business travelers had a higher preference for the combination of frequent flyer benefits reflected on Card 5. In terms of attributes and levels, the findings indicated that the top three preferences of frequent flyer program benefits for males were upgrade with lower limit mileage, free ticket with lower limit mileage, and priority boarding. For female business travelers, the top three preferences were free ticket with lower limit mileage, upgrade with lower limit mileage, and priority boarding. Thus the findings confirm Shaw's (2001) theory that members of frequent flyer programs desire not only upgrade, and free ticket, but also priority services such as priority boarding. In conclusion, both male and female business travelers gave a high preference to upgrade, free ticket, and priority boarding.

Preferences of Age Groups

According to the findings, each age group had the highest preference for the benefits combination set forth on Card 5. In addition, upgrade and free ticket were the most important benefits for each age group. However, those age 61 and higher, viewed priority boarding as the most important benefit followed by free ticket and mileage earned from airline partners. According to Ebner, Freund, and Baltes (2006),

individuals who were older (age 61 and higher) experienced physiological limitations such as decline in their capacity to engage in physical exercise or work. Hence, the possible reason for those 61 and above viewing priority boarding as the most important frequent flyer program benefits was an inability to walk as fast or greater difficulty lifting bags into the luggage compartment. As they need extra time to do these things, they want the special and intangible service provided by priority boarding to make their journey more comfortable.

Preferences of Occupational Groups

In terms of various occupational groups, people who work in the tourism industry and educational field differed in their preferences for the six benefits as compared to other groups. People in the tourism industry put the highest preference on mileage earned from airline partners. In addition, they also viewed upgrade and priority reservation as crucial. According to Goh and Uncels (2003), travelers can accumulate mileage more easily through airline alliances as well as by obtaining mileage from other industries such as hotels, rental car companies, banks, or restaurants. Moreover, those who work in tourism industry are more aware of all the ways to earn mileage from airline partners and thus able to fully take advantage of this feature as compare to those outside

the tourism industry. Therefore, the business travelers who work in the tourism industry viewed mileage earned from airline partners as the most important frequent flyer program benefits.

Those working in education saw priority boarding and upgrade as also being important. In addition, they expected higher level membership for priority reservation.

The possible reason for desiring the higher level memberships could be an ability to reserve tickets easier even during the peak period. According to a prior study (Shin, 2000), business travelers preferred higher level membership to enjoy frequent flyer program benefits and services than did non-business travelers. Further, business travelers expected a priority reservation even during the peak period (Shaw, 2001).

Interestingly, government officials preferred that a higher level membership be necessary to use the VIP lounge, perhaps because they hoped that not too many people will be enjoying that service along with them.

Preferences of the U.S. Resident versus Non-U.S. Resident

The preferences of frequent flyer program benefits of people who live in the United States versus those living outside were not very different from each other as both groups put upgrade and free ticket with a lower limit mileage as their two highest preferences

followed by priority boarding. According to Toh, Browne, and Hu (1996), business travelers living in Australia and the United States both viewed frequent flyer program benefits as crucial elements in their choice of an airline. In addition, the limits on redemption of miles for free ticket and upgrade were important components for them to consider in joining a frequent flyer program. Overall, business travelers regardless of whether they live inside or outside the United States had the and outside the highest preferences for upgrade and free ticket.

Limitations

This study has three potential limitations. First, the survey employed a convenience sampling method. The bias of a convenience sampling method was demonstrated in both Stage One and Stage Two as the respondents were 75.2% male in Stage One and 61.7% male in Stage Two. Hence, the sample was less diversified and not representative of the actual gender proportion of all business travelers. However, according to a prior study (Browne, Toh, & Hu, 1995), 74% of all members of frequent flyer program were men while only 26% were women. Second, 58.8% of the respondents in Stage One and 61.7% of those in Stage Two lived in the United States, so it may not be possible to generalize the study results to other countries. Finally, due to

budget and time constraints, the researcher conducted the survey at a single airport rather than multiple ones. Moreover, the sample did not include all airlines flying between the United States and countries in Asia. Therefore, the sample may be not representative of all business travelers.

Conclusion

The purpose of this study was to investigate the preferences of business travelers regarding frequent flyer program benefits. The study was conducted in two stages with 403 respondents (Stage One) and 389 respondents (Stage Two). The findings of Stage One showed that upgrade, free ticket, VIP lounge, priority reservation, mileage earned from airline partners, and priority boarding were the six most important frequent flyer program benefits. The findings of Stage Two indicated that the order of preferences from the respondents were upgrade with a lower limit mileage, free ticket with a lower limit mileage, priority boarding allowed, priority reservation with lower membership use, mileages earned from airline partners allowed, and access to VIP lounge with a lower membership use. Therefore, understanding the preferences of travelers regarding frequent flyer program benefits can help airlines create attractive programs for their potential customers. This study has some practical suggestions to airline industry.

They are discussed in the next section.

Suggestions for Airline Industry

The findings of this study suggest several points to the airline industry. First, the benefits combination set forth on Card 5 proved to be the optimal combination card in this study. Accordingly, airlines can create attractive frequent flyer programs for their target market based on the benefits combination of Card 5. In the existing airline market, American Airline provides a frequent flyer program nearest to Card 5: lower limits for upgrading, free ticket, priority reservation for second level membership and over, mileage earned from airline partners and priority boarding services, but allows only the highest level of membership to use the VIP lounge.

In addition, for all of respondents, upgrade was the most important benefit of frequent flyer program. Airlines can provide guaranteed upgrade seats for booking several months prior to travel. Further, airlines could provide more upgrade opportunities through airline alliance. If an airline does not have enough seats for upgrade, it can transfer its customers to its other partners.

Priority boarding and priority reservation were also highly preferred by business travelers. This may mean that business travelers expect overall priority services. As

most respondents desired airlines to provide priority boarding service, airlines can invite travelers to board by levels of membership. Furthermore, the age 61 and above group viewed priority boarding as the most important benefit. Therefore, airlines could provide a senior frequent flyer program to satisfy the needs of seniors. As to priority reservation, most respondents hoped that a lower level of membership could be provided in the priority reservation, but those in education expected only higher level members to use this benefit. To balance out the booking situation, while satisfying customers, airlines could supply different priority reservation sections for various levels of membership. For example, lower level members could be required to book several months in advance in order to get the priority reservation, while the highest level members could obtain priority reservations at any time.

Respondents also preferred that mileage earned from airline partners was allowed. Airlines could extend this benefit by increasing their alliances so as to make frequent flyer programs more attractive. However, some travelers did not understand the benefits available with airline partners. Therefore, the airline industry should use more marketing tools (such as the internet, brochures, or magazines) to give customers a greater understanding of the services stemming from airline alliances.

Finally, in addition to these six preferred benefits identified in the study, several respondents expected free internet in the airport, free parking, and spouse upgrade. In the existing market, fewer airlines provide spouse upgrade (such as China Airlines) for higher level members and no airline provides free internet in the airport and free parking. If the airlines could add these three benefits, their programs would be more attractive for travelers.

Suggestions for Future Studies

The twenty frequent flyer program benefits compiled from frequent flyer programs of airlines serving travelers flying between the United States and countries in Asia were reduced to six most preferred benefits in this study. Future studies are suggested to further investigate the importance of the other benefits. In addition, as this study focused solely on airlines flying between the United States and countries in Asia, future studies are suggested to examine frequent flyer program benefits of other air routes. Furthermore, as different types of travelers have distinct expectations; future studies can explore the preferences of leisure travelers as compared business travelers and study the preferences of various market segments. This would greatly contribute not only to airline customer service studies, but also the airline industry.

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Appendix A

The Questionnaire of Stage One:

Identifying the six most important frequent flyer program benefits which business travelers will consider in joining a frequent flyer program

Dear Sir/ Madam,

My name is Ya-Han Hsieh and I am a graduate student in Recreation and Leisure Studies department of San Jose State University, CA, USA. My major is international tourism. The purpose of this research is to identify the six most important frequent flyer program benefits which business travelers will consider in joining a frequent flyer program. Your opinion will make a great contribution for this research and tourism field. I deeply appreciate your assistance and participation in this research. Please take several minutes to complete this questionnaire according to your personal opinions. Your participation is completely voluntary, and you may stop at anytime. Your answers will be utilized only on this research and won't be used for other purposes.

Thank you very much for participating in this research. If you have any questions about this research, you can address them to Ya-Han Hsieh at (408) 833-4202 and Dr. Gonzaga da Gama, Department of Recreation and Leisure Studies at (408) 924-3009. Complaints about this research can be posed to Dr. Bethany Shifflet who is Interim Chair of Recreation and Leisure Study department of San Jose State University at (408) 924-3009. Questions about rights of research subjects and research-related injury can be reported to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research at (408) 924-2480.

San Jose State University, California, U.S.A
Ya-Han Hsieh

Section 1

- Please choose 6 the most important benefits out of these four frequent flyer program benefits categories

- Free ticket
- Upgrade
- Spouse upgrades
- Discount on in-flight duty free shop
- Discount on buying airline travel packages
- Non-travel related rewards

- Priority reservation
- Priority baggage
- Priority security line
- Priority boarding

- Birthday gift miles
- Additional miles earn from buying airline travel packages
- Tier upgrade mileages
- Mileages earned from airline partners

- Reservation hotline
- Confirmed reservation
- Exclusive check-in counter
- Extra baggage
- VIP lounge
- Mileage statement

Please move to next page.

Appendix B

Agreement to Participate in Research (Stage One)

Responsible Investigator: Ya-Han Hsieh (SJSU Graduate Student)

Title of Protocol: Preferences of Business Travelers Regarding Frequent Flyer Program Benefits.

1. You have been asked to participate in a research study, “understanding the preferences of business travelers regarding frequent flyer program benefits.”
2. You will be asked to respond to a self-administrated questionnaire about your six favorite frequent flyer program benefits as well as some demographic information.
3. There are no anticipated risks to participating in this research study.
4. There are no overt benefits to participating in the investigation.
5. No alternative procedures will be employed.
6. Although the results of this study may be published, no information that could identify you will be included.
7. There is no compensation for participation in the study.
8. Questions about this research may be addressed to Ya-Han Hsieh, at (408) 833-4202 and Dr. Gonzaga da Gama, Department of Recreation and Leisure Studies at (408) 924-3009. Complaints about the research may be presented to Dr. Bethany Shifflet, Interim Chair of Recreation and Leisure Studies Department at (408) 924-3000. Questions about research subjects’ rights or research-related injury may be presented to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research, at (408) 924-2480.
9. No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose to “not participate” in the study.
10. Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. If you decide to participate in the study, you are free to withdraw at any time without any negative effect on your relations with San Jose State University or with any other participating institutions or agencies.
11. At the time that you sign this consent form, you will receive a copy of it for your records, signed and dated by the investigator.

- **The signature of a subject on this document indicates agreement to participate in the study.**
- **The signature of a researcher on this document indicates agreement to include the above named subject in the research and attestation that the subject has been fully informed of his or her rights.**

Signature

Date

Investigator’s Signature

Date

Appendix C
Questionnaire of Stage 2:
Business travelers' preference of frequent flyer program benefits

Dear Sir/ Madam,

My name is Ya-Han Hsieh and I am a graduate student in the Recreation and Leisure Studies department of San Jose State University, CA, USA. My major is international tourism. The purpose of this research is to investigate preferences of business travelers for frequent flyer program benefits. Your opinion will make a great contribution for this research and tourism field. I deeply appreciate your assistance and participation in this research. Please take several minutes to complete this questionnaire according to your personal opinions. Your participation is completely voluntary, and you may stop at anytime. Your answers will be utilized only on this research and won't be used for other purposes.

Thank you very much for participating in this research. If you have any questions about this research, you can address them to Ya-Han Hsieh at (408) 833-4202 and Dr. Gonzaga da Gama, Department of Recreation and Leisure Studies at (408) 924-3009. Complaints about this research can be posed to Dr. Bethany Shifflet who is Interim Chair of Recreation and Leisure Studies department of San Jose State University at (408) 924-3000. Questions about rights of research subjects and research-related injury can be reported to Dr. Pamela Stacks, Associate Vice President, Graduate Studies and Research, at (408) 924-2480.

San Jose State University, California, U.S.A
Ya-Han Hsieh

Section 1: Frequent Flyer Program Benefits Combinations

Section one of the questionnaire includes 8 combinations cards of frequent flyer program benefits in order to examine business travelers' preferences of frequent flyer program benefits.

1. Please read the description and rate every combination card on a scale of 0 to 100 based on your preference. Please make a circle on the score. In addition, third level membership is higher than second level membership.

Card 1

Upgrade: 31,000~50,000 (miles)
Free ticket: 91,000~120,000 (miles)
VIP lounge: Third level membership and over
Priority Reservation: Second level membership and over
Mileages earned from airline partners: Yes
Priority boarding: No

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 2

Upgrade: 15,000~30,000 (miles)
Free ticket: 91,000~120,000 (miles)
VIP lounge: Second level membership and over
Priority Reservation: Third level membership and over
Mileages earned from airline partners: Yes
Priority boarding: No

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 3

Upgrade: 15,000~30,000 (miles)
Free ticket: 60,000~90,000 (miles)
VIP lounge: Third level membership and over
Priority Reservation: Second level membership and over
Mileages earned from airline partners: No
Priority boarding: No

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 4

Upgrade: 31,000~50,000 (miles)
Free ticket: 91,000~120,000 (miles)
VIP lounge: Second level membership and over
Priority Reservation: Second level membership and over
Mileages earned from airline partners: No
Priority boarding: Yes

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 5

Upgrade: 15,000~30,000 (miles)
Free ticket: 60,000~90,000 (miles)
VIP lounge: Second level membership and over
Priority Reservation: Second level membership and over
Mileages earned from airline partners: Yes
Priority boarding: Yes

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 6

Upgrade: 15,000~30,000 (miles)
Free ticket: 91,000~120,000 (miles)
VIP lounge: Third level membership and over
Priority Reservation: Third level membership and over
Mileages earned from airline partners: No
Priority boarding: Yes

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 7

Upgrade: 31,000~50,000 (miles)
Free ticket: 60,000~90,000 (miles)
VIP lounge: Second level membership and over
Priority Reservation: Third level membership and over
Mileages earned from airline partners: No
Priority boarding: No

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

Card 8

Upgrade: 31,000~50,000 (miles)
Free ticket: 60,000~90,000 (miles)
VIP lounge: Third level membership and over
Priority Reservation: Third level membership and over
Mileages earned from airline partners: Yes
Priority boarding: Yes

Please give a rate based on above descriptions:

0 10 20 30 40 50 60 70 80 90 100
Do not like at all Really like it

2. Do you have other expectations about frequent flyer program benefits which are not included in existing frequent flyer programs?
-
-
-

Part 2: Information of Memberships of Frequent Flyer Program

3. Number of frequent flyer programs which you are enrolled in: (Please check one)

1 2 3 4 5 over 5

4. Names of all the airlines' frequent flyer programs you are enrolled in:
-
-

5. Number of business trips you made between the United States and Asian countries in the past twelve months: (Please check one)

1 2~4 5~7 8~10 over 10

6. Total mileage you traveled between the United States and Asian countries in the past twelve months: (Please check one)

Less frequent flyers: under 20,000

Frequent flyers: 21,000~55000

Very frequent flyers: 56,000 and over

7. Types of benefits you redeemed in the past twelve months: (Multiple choice)
- Free ticket Upgrade VIP lounge
 - Non-travel related rewards
 - Others _____

Part 3: Demographic Information

7. Gender: (Please check one)
- Man Woman
8. Age: (Please check one)
- Age 18-30 years old Age 31-40 years old
 - Age 41-50 years old Age 51-60 years old
 - Age 61 years old and above
9. Occupation: (Please check one)
- Manufacturing Governments
 - Education Tourism industry
 - Wholesale business Finance and insurance industry
 - Agriculture, fishery, forestry,
mining industry Information technology industry
 - Others _____
10. The countries of residence:
- The United States
 - Non-United States
Please write down the country you live _____

Thank you very much for taking the time to contribute to this research.

Appendix D



Office of the Provost
Associate Vice President
Graduate Studies & Research

One Washington Square
San José, CA 95192-0025
Voice: 408-924-2427
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E-mail: gradstudies@sjsu.edu
http://www.sjsu.edu

To: Ya-Han Hsieh

From: Pamela Stacks, Ph.D. *Pamela Stacks*
Associate Vice President
Graduate Studies and Research

Date: June 13, 2007

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

"Preference of business travelers regarding frequent flyer program benefits"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to all data that may be collected from the subjects. The approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Pamela Stacks, Ph.D. immediately. Injury includes but is not limited to bodily harm, psychological trauma, and release of potentially damaging personal information. This approval for the human subject's portion of your project is in effect for one year, and data collection beyond June 13, 2008 requires an extension request.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services that the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at (408) 924-2480.

cc. Gonzaga da Gama, 0060

The California State University:
Chancellor's Office
Bakersfield, Channel Islands, Chico,
Dominguez Hills, East Bay, Fresno,
Fullerton, Humboldt, Long Beach,
Los Angeles, Maritime Academy,
Merced, Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Appendix E

Agreement to Participate in Research (Stage 2)

Responsible Investigator: Ya-Han Hsieh (SJSU Graduate Student)

Title of Protocol: Preferences of Business Travelers Regarding Frequent Flyer Program Benefits.

1. You have been asked to participate in a research study “understanding the preferences of business travelers regarding frequent flyer program benefits.”
2. You will be asked to respond a self-administrated questionnaire about your preferences of frequent flyer program benefits, membership information, and demographic information.
3. There are no anticipated risks to participating in this research study.
4. There are no overt benefits to participating in the investigation.
5. No alternative procedures will be employed.
6. Although the results of this study may be published, no information that could identify you will be included.
7. There is no compensation for participation in the study.
8. Questions about this research may be addressed to Ya-Han Hsieh, at (408) 833-4202 and Dr. Gonzaga da Gama, Department of Recreation and Leisure Studies at (408) 924-3009. Complaints about the research may be presented to Dr. Bethany Shifflet, Interim Chair of Recreation and Leisure Studies Department at (408) 924-3000. Questions about research subjects’ rights or research-related injury may be presented to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research, at (408) 924-2480.
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- **The signature of a subject on this document indicates agreement to participate in the study.**
- **The signature of a researcher on this document indicates agreement to include the above named subject in the research and attestation that the subject has been fully informed of his or her rights.**

Signature

Date

Investigator’s Signature

Date