Identifying individual preferences in the airline industry

Business, Industries

Transportation services are becoming more common and broadly used in recent decade, in line with the advancement oftechnology. Generally, transportation services can be divided into three groups: water transportation, land transportation and air transportation (Gee, Choy, & Makens, 1984). Airline industry, which this essay focusing on, is one of the discoveries of newest innovations in the travel services sector. It has been developed so much in recent year to operate more effectively. Not only guarantee a safe journey to the destination place, the airline companies are now trying to create a competition in the market by providing the best services to the travellers and offering competitive prices (Hensher & Louviere, 1983). Those strategies are aimed to attract more consumers to travel by their airline companies.

This essay will discuss the theories of consumer economics and their applications in the real consumer issues in airline industry, mainly on the factors that changing the consumer demand of airplane ticket, as well as the underlying reasons of why consumers prefer some particular airlines to the others. Furthermore, the behaviour of different types of consumers toward the choice of different airlines will also be discussed here. In observing those issues, this paper will focus on two airline companies: Singapore Airlines and Jetstar. The price data were obtained from a single route from Melbourne to Singapore.

The core idea in analysing consumer behaviour in making choices in the economic activity, mainly in the airline industry, is because of their limited

incomes and unlimited wants. Those then lead to trade-offs and opportunity costs.

Consumers in the airline industry could be divided into two groups, which are business and pleasure travellers.

Elasticity is the percentage change in one variable resulting from a 1-percent increase in another (Pindyck & Rubinfeld, 2009). When the price elasticity is greater than 1 in magnitude, we say that demand is price elastic because the percentage decline in quantity demanded is greater than the percentage increase in price. If the price is less than 1 in magnitude, the demand is said to be price inelastic.

Graph 1. Elastic and inelastic demand

(Inelastic demand) (Elastic demand)

In this case, elastic demand of airline industry is exceptionally unstable because it depends on the market conditions such as inflation, terrorists attack and price oil. In airline industry, price elasticity demand is considered both elastic and inelastic (Yahoo Voices, 2008). An elastic demand is in relation travel for pleasure. Pleasure travellers are extremely sensitive to the price of the travel. An inelastic demand is in relation for business travel. Business travels have little effect for increase in price of the travel.

Income elasticity of demand measures the degree of responsiveness of demand of a good to a change in consumers' income. It has equation of : EI=[ΔQ/Q]/[ΔI/I]=[I/Q]*[ΔQ/ ΔI]. Airplane ticket is normal good as it has a

positive income elasticity, which means when consumers' income increase the consumption of ticket will increase as well.

Cross elasticity of demand measures the degree of responsiveness of demand of one good to a change in the price of another good. It is shown in the equation: EQ1P2 = [ΔQ1/Q1] / [ΔP2/P2] = [P2/Q2]*[ΔQ1/ ΔP2]. If airplane ticket and other consumption (i. e. foodand cloths) are considered as a group, there will be a positive cross-price elasticity, which tells us that if the price of one good (other consumption or ticket) goes up, the demand for the other good goes up as well.

Consumer behaviour analysis attempts to understand the consumers' allocation of incomes among different goods and services to maximize their well-being. It consist of three distinct aspects: consumer preferences, describing the reasons why people might prefer one good to another; budget constraints, reflecting consumers' limited incomes that restrict the quantities of goods they can buy; and consumer choices, which are the combination of the consumer preferences and budgets constraints (Pindyck & Rubinfeld, 2009).

There are some basic assumptions made in observing consumer preferences in the airline industry. First, preferences are assumed to be complete. Complete means that consumers are able to compare and rank all possible market baskets. However, this assumption ignores costs. Second, preferences are transitive or consistent. And third, " more is better than less" since goods are assumed to be desirable.

Indifference curve represents all combinations of market baskets which provide consumer with same level of satisfaction (Pindyck & Rubinfeld, 2009). Indifference curve and utility functions (set of indifference curves) are used to analyse the consumer behaviour and preferences in choosing market baskets, in which relate to consumer demand (Gould, 1973). Higher indifference curve is more preferable to the lower one because it represents higher welfare (Telhado, 2007). Moreover, indifference curves cannot intersect and the slope of each point in the indifference curve represents marginal rate of substitution (MRS), which is the maximum amount of a good that consumer is willing to give up to obtain one additional unit of another good.

Indifference curves of consumers in the airline industry are assumed to be downward sloping and bowed-inward, reflecting diminishing MRS, since the demand of airplane tickets and comparable goods are both desirable. The shape of the indifference curves is different among group of consumers. Indifference curves of the first group of consumer, business travellers, are steeper than pleasure travellers. Graph 1 below shows that the business travellers' group is willing to trade more of other consumption (a) to exchange it with an airplane ticket (b), since they need to directly travel to other place establishing business transactions.

Graph 2. Indifference map for business travellers

While in the graph 2, pleasure travellers is unwillingly trade more of the other consumptions in order to purchase a unit of airplane ticket (a < b). It is

because they travel to seek pleasure, not urgently need to be done directly. Thus, they are more flexible in the decision making process of which airline company they want to travel with and the time of travel.

Graph 3. Indifference map for pleasure travellers

Along with indifference curve, there is budget constraints which restraint consumer’s consumptions due to limited incomes (Mary, 2007). Assume that the budget lines for business and pleasure travellers are equal which can be seen from graph 3 and 4 below; the steeper indifference curves for business travellers show their optimal choices between purchasing airplane tickets and other goods. Business travellers seem to purchase more airplane tickets rather than other consumptions because they want to give up more of other consumptions to obtain an additional airplane ticket.

Graph 4. Indifference map and budget constraints for business travellers

In contrast, for pleasure travellers, the flatter indifference curves will lead them to purchase other consumptions rather than allocating a large portion of income in purchasing airplane tickets. The tangent between indifference curve and budget constraint will be the point of maximum well-being which can be achieved. Area below the optimal point shows that the consumers are not maximising their consumption. Whilst the area above that point means the consumers do not have enough income (budget) to achieve that consumption level.

Graph 5. Indifference curve for pleasure travellers

In general, when there is a change in consumer’s income, there will be a parallel shift in the budget line, either downward or upward. As shown in graph below, initially, the utility-maximizing consumption choice is at A, at which point he buys X1 units of airplane ticket and Y1 units of other kinds of good. If his income increases, his budget line will shift outward, allowing him to attain the higher utility level associated with indifference curve U2 and then U3. His optimal consumption choice is at B (and then D) now. At this time, the consumer can purchase larger units of tickets (from X1 to X2 to X3). It can be seen in the income-consumption curve that the slope is upward, because as income increase, the consumption of both airplane ticket and other consumption increase.

Graph 6. The effect of a change in income level

On the other hand, when there is a change in product’s price and income level held constant, there will be an intercept rotation on the budget line. Recent condition in the airline industry is many companies try to attract more consumers to purchase the airline tickets from them by cutting the airfares. This strategy increases the competition level among the airline industry. The reduction in price of the air fares will result in outward rotation in the budget line on the ‘ x’ axis, which represents airplane ticket. People can now purchase more airplane tickets due to lower price, representing the increase in consumers’ welfare or utility level. It is associated by the movement of indifference curve from U1 to U3 by selecting point D. At this time, consumption of ticket will increase from X1 to X3. Moreover, the slope

of the second budget constraint is now decreasing, represents lower opportunity cost of obtaining a unit of airplane ticket.

Graph 7. The effect of the decrease in price level

In most cases, consumers would like to buy more airplane tickets as their income increases, but in some cases, the quantity demanded falls as income increases, the income elasticity of demand is negative. As shown in graph below, for relatively low levels of income (between point A and B), both Singapore Airlines and Jetstar flights are normal goods. However, as income rises, some consumers tend to buy less Jetstar tickets and more Singapore Airlines tickets as Singapore airlines has better service, food supply and in-flight entertainment system. At this time Jetstar has become an inferior good, the income-consumption curve bends backward from point B to C, which means its consumption has fallen when income has increased.

Graph 8. Jetstar becomes an inferior good as income increases

Even though Jetstar has been said as inferior good in some cases, in general, airline ticket is assumed as normal good. Refer to that, a decrease in the price of airline tickets due to the market competition has both income and substitution effect.

As shown in the graph below, the consumer is initially at A, on budget line RS. When the price of ticket falls, consumption increases by A1A2 as the consumer move to B. Keeping real income constant, the substitution effect A1E can be got when the price of ticket falls, associated with a move from A

to D. If keeping relative price constant but increasing purchasing power, the income effect EA2 can be got, associated with a move from D to B. As airplane ticket is normal good, the income effect EA2 is positive. Therefore, the total effect of a change in ticket price is equal to the sum of the substitution effect and income effect.

Graph 9. Total effect of a change in price

After discussing the demand curve for individual consumer, market demand curve for airplane ticket will be shown now. It can be derived as the sum of the individual demand curve of all consumers in the market, as stated previously. As shown in graph below, the market demand curve is also slope downward as all the individual demand curves slope downward. However, the market demand curve is not a straight line.

When more people choose to travel by airplane, the market demand curve will shift to the right. In addition, if most consumers in the market earn more income, as a result, their increasing demand for airplane ticket will also shift the market curve to the right. If the economic crisis breaks out as what happened several years ago, many people lose their job and the income decreased. Thus, the market demand curve for airplane ticket will shift to the left.

Graph 10. The market demand curve for airplane ticket

From the actual rates, Singapore Airlines has the higher average price than Jetstar. In the same time, there is a survey about the level of satisfactions of

international airlines shown by the graph below. From the graph, it illustrates that Singapore Airlines has the highest satisfaction level figure.

From the risk and uncertainty point of view, Singapore Airlines provides superior service and it maintains an eye on rivals' prices and ensures it stays competitive among other airline companies. The airline cancellations and delays usually provided with explanations and apologies. This airline is also providing advantage on frequent flyer consumers such as " priority passengers' service". This service is suitable for business travellers as it will give them advantage in booking urgently needed flights for important meetings.

This airline is also suitable for those high-income pleasure travellers as it offers great entertainment and amusement, such as popular movies with multiple language options, games and dozens of audio channels. In addition, Singapore Airlines catering supply is trying to provide varieties of meals menu which match the likely passengers' needs. For example, there will be Indian and western food provided for subcontinent flights. Moreover, Singapore Airlines has a modern fleet and the aircrafts have been maintained with the highest standards. Thus, the cost of flights is higher which result in the higher airfares, however, safely of this airline is guaranteed.

Comparing to Singapore Airlines, Jetstar offers lower price to the consumers. Their food, beverages and entertainment standard are much lower than Singapore Airlines'. Jetstar is known for having many complaints from its

passengers in term of its services, such as frequent delays and cancellations of flight. Those seem to be serious problems for business travellers, as time efficiency is the main factor. However, Jetstar's network is constantly expanding by opening flights to some new locations in Asia. Thus, Jetstar is more suitable for pleasure travellers which have shorter travel distance and not much concern about the services provided on board.

As the theory of equal marginal principle states that " the utility is maximized when the consumer has equalized the marginal utility per dollar of expenditure across all goods" (Gordon, 2007), the business travellers who are not price prioritize will choose to travel with Singapore Airlines since they prefer in optimal satisfaction. However, for the pleasure travellers that prioritize the price factor will choose to travel with Jetstar which provide low price for consumers rather than best satisfaction.

Graph 11. Satisfactions with International Airlines 2009-2010

Even with a high level of satisfaction, Singapore Airline has experienced a decline in market share over the last five years, as shown in Graph 13. Low-cost airlines such as Jetstar have contributed to the lack of growth for more premium airlines. Additionally, Peter von Moltke stated that " the low cost sector is a major influence in sustaining a steady growth trajectory for the global aviation industry." (PR Newswire, 2011).

Graph 12. Market share of Top 10 Airlines in Australia

(Department of Infrastructure and Transport, 2012)

So far, it has assumed that people’s demands for airplane ticket are individualized. That enables us to obtain the market demand curve simply by summing individuals’ demands (Kris, 2007). In real-life, however, one person’s demand always depends on other people’s demand. That is a network externality, which can be positive or negative. It is a good chance for airline companies to attract more passengers by using bandwagon effect of a positive externality.

As shown in the graph below, when consumers believe more people have purchased the product, the demand curve shifts further to the right (D1 to D5). The market demand curve is found by joining the points on the individual demand curves, which can be seen that it is relatively more elastic. Suppose the ticket price falls from P1 to P2. Without bandwagon effect, the quantity demanded will increase from Q2 to Q2’. However, as more passengers choose to fly with Jetstar or Singapore Airlines and think it is worth to be the first-flying choice as it is trustworthy, the bandwagon effect increases quantity demanded further to D4. Therefore, airline companies use bandwagon effect to increase the response of demand in relevance with price change.

To obtain this effect, the airline companies could target its potential segment and useadvertisementto build up their brand image and reputation among the market. For example, Singapore Airlines could use ‘ comfortable, quick and always on-time’ image to attract its business travellers. And for Jetstar, the image of cheap and flexible could help the company to obtain its bandwagon effect in pleasure travellers’ market.

Graph 13. Bandwagon effect

To conclude, the consumers' demand of airplane ticket is affected by their income, ticket price, and the demand elasticity. Business travellers prefer to travel with Singapore Airlines, even with a higher airfare. They concern more on punctuality and the service provided and their price elasticity of demand is low. In contrast, pleasure travellers are less concerned with the quality of service provided, focusing on reaching their destination with the lowest cost. Their price elasticity of demand is high, thus, Jetstar is preferred in this case. In the intense market competition, Singapore airlines and Jetstar could use the bandwagon effect to attract more passengers by building up their own brand image.