

The troubles of train meal

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Abstract—The train into public life increasingly, travel, work and go to school by train become a way of people's choice, but the price and quality of train meal have become an obsession. This article mainly from three aspects which are supply, the balance between demand and supply and the elasticity of supply to explain why the train meal so expensive.

Keywords—train meal; supply; demand and supply equilibrium; the elasticity of supply

I. INTRODUCTION

Train is the common vehicle and has most number of passengers. When train as a convenient transportation shuttle, which shorten the distance between us, each passengers are inseparable from car snack food. Some scholars pointed that food prices on the train tend to more than a third higher than elsewhere [1]. So it can find that a considerable part of passengers carried a lot of baggage and convenience foods by train, which has become a unique landscape of Chinese railway passenger transport. With the rapid development of China's railway transport industry, the railway catering quality and safety issues have become increasingly prominent, for train meals everyone has common feeling is low quality and high price. As it says train catering prices are "profiteering zone", for travelers who year-round wear plum in a country's railway.

Then this article will analyze from the perspective of demand and supply. Apart from the analyze of food in train by demand and supply theory, some scholars also use demand and supply theory to analyze other things, such as, water supply and demand equilibrium problems have become the attention in recent years, researchers from different angles to explore it [2-4]. Yang et al. put forward the principles of ecocity-oriented water resources supply and demand balance analysis [5]. You et al. utilized the principle of supply and demand to analyze the water resources of Qiantang River [6]. Zhao et al. used the principle of supply and demand balance and gray system to forecast Kaifeng's water resources [7]. Wei et al. analyzed the supply and demand balance of water resources under different Inflow rate [8]. Wang et al. summarized a wide variety of supply and demand interaction form [9]. These applications of balance and supply theory

show that demand and supply theory in dealing with the problem of water resource demand and supply, which is also a reason why we choose this method to analyze train meal.

Further, apart from the analysis of water resources, the demand and supply theory in other parts has acquired a lot of achievements. For example, Chen et al. established equilibrium model based on the market price of dairy supply and demand [10]. Huang et al. analyzed the status of coal demand and supply of China and predicted the domestic coal demand [11]. Xuan used supply and demand theory to analyze, the result showed that it was difficult to make adjustment in price based on changes in demand [12]. Wang and Yi put forward related macroeconomic regulation and control countermeasures to construct Guangzhou law carbon land traffic from supply and demand [13]. Ma et al. carried out the analysis of water demand and supply based on assessment of current water availability and its utilization [14]. The main objectives of the above are to show the application of demand and supply theory in coal material, the relationship between price and demand and so on.

Apart from the above mentioned issues, Liu et al. found that different supply and demand will lead to different food security situation [15]. Yang and Yi found that supply fluctuation and demand fluctuation will change the price of coal [16]. Li analyzed the main causes leading to demand and supply contradiction and influence factors [17]. Base on that, we will continue to introduce train meal based on demand and supply theory. Long distance travel by train is one of the most commonly used means of transport, which provide different grades and prices of service to different consumer groups, such as the provision of soft, hard, hard seat like.

Therefore, the train has always been the most long-distance passenger transport vehicles. By train has many advantages, such as reasonable fares, fast delivery speed, high degree of safety, transport capacity, etc., but it also has many significant disadvantages, such as train cars crowded, hot, take your mind off the journey is hard. During the day, sleeping in snatches to the night, it is difficult to fall asleep. Even if you are lucky enough to get a sleeper, you spend half the night staring at the small blue light in the ceiling sleep or else as

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checked fumble your ticket. Once arrived at your destination almost exhausted.

When in train, fast food price is also a problem encountered by travelers. Train as public transport, in addition to profit, it also has the nature of public service. Apart from train operator monopoly, we just analyze from fast food itself, then the fast-food prices in the train mainly affected by supply and demand. People can not without eating, so if supply the train meal in market price, the demand for fast food will be very large. While the limited capacity of the car and along the supply is limited which will result in fast food in short supply, so in order to maintain the supply and demand balance, the relevant departments of train had to raise the price of fast food and reduce the demand of train meal.

Based on the literature review above and practical trends in train meal, this study proposes demand and supply theory and applies it to analyze train meal in China. In order to do that, this paper is organized as follows: The introduction in Section 1. The basic theory of demand and supply are proposed and their properties are discussed in Section 2. In Section 3, analyze the train meal condition. The paper ends with conclusions in Section 4. In Section 5, it's acknowledgement.

II. THE THEORETICAL BASIS

Demand and supply are the two contents of supply and demand theory, social needs is in the established level of development of production and distribution system, within the limits of their income that people can pay and willing to pay for material goods and services.

A. Demand

1) The definition of demand

Consumer demand means a commodity is willing and able to buy a number of requirement in a particular period of possible price [18], which can be represented by a formula: Needs = desire to buy + purchasing power of the human, desire is a need a concrete manifestation, for example if you are hungry you need is to fill your stomach, then your concrete manifestation is what you want to eat. Need is a natural property because the natural properties can not be created, same as the demand.

2) The demand function and factors of influence demand

Many passengers need goods or services in the train. To do this, we use a function equation, i.e: $= f(P, T, I, E, A)$, we have the basic factors influencing the market demand for more detailed analysis:

a) *The price of the goods (P)*. The demand and price has a reverse relationship. If the price increases, the demand of the product will decrease; if the price decrease, the demand of the product will increase.

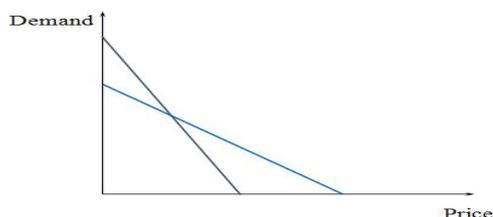


Fig. 1. Price demand curve.

b) *Consumer preferences (T)*. Preference is the degree of consumer preferences for goods.

c) *Consumer income (I)*. For most commodities, when the income levels of consumers rising, the demand for goods will also increase. Those goods are called normal goods. While other commodities, the increasing income levels of consumers, the demand for these goods will reduce low-grade products.

d) *The price of alternatives*. The alternative product is some products have similar values, they can replace each other to meet the needs of people.

e) *The price of complementary products*. The complementary goods means in order to meet the needs of some people one goods must combine with the use of other goods, such as cars and gasoline, household appliances and electricity. Between complementary goods, one of the commodity prices rising, the demand for the products will reduce and the demand for complementary products will decrease.

f) *On the future price expectations (E)*. If consumers believe that the prices of some commodities are likely to rise, it will stimulate people to buy in advance; if the prices are likely to fall, many consumers will postpone the purchase.

g) *Other factors (A)*. As the variety of goods, quality, advertising, location, season, climate, national policies, customs, etc., will also affect the demand for commodities.

B. Supply

Supply means that manufacturers are willing and able to provide a number of products in a variety of possible prices with in a certain period. As a result of supply should have two conditions: first is the desire to sell; second is having the capacity of supply. Both are indispensable. Whether on the train or elsewhere, it is impossible without food for people so there is a natural demand for trains snack in market conditions. It also has a direct relationship between the quantity of demand for fast food and the number of train passenger.

C. Equilibrium Theory

We will introduce two analysis theories about western economics of supply and demand which are equilibrium price theory and elasticity theory. The economic equilibrium in economic system references to a thing in the economic interaction among the various economic forces. If something about the economic aspects of force that can restrict each other or cancel each other out, then the economy will be in a

relatively stable state and maintain the current situation unchanged. In the market, demand and supply can be considered as conflicting economic forces.

D. Supply and demand elasticity

1) The definition of supply and demand elasticity

Elasticity of supply and demand is reflected in the reaction or sensitivity of demand and supply of some variable changes. The variable factors of supply and demand are price, income and other related products' prices. Elasticity of demand includes price elasticity of demand, cross elasticity of demand, income elasticity of demand and the expected elasticity of demand and so on. We just analyze from the price elasticity of demand, that is to say, with respect to the extent change in quantity for a commodity, the relative reaction of the product prices in a period of time, which is the ratio between the percentage change in the demand and price.

2) Categories of demand's price elasticity

The kinds of price elasticity of demand can be divided into five situations: 1. Price is not affected by the demand which is perfectly inelastic. 2. When the price is fixed, the demand unlimited which is perfectly elastic demand. 3. Demand with price changes in the same proportion of single elastic. 4. The percentage change in demand is greater than the percentage change in price elasticity. 5. To the contrary, lacking of flexibility. The main factors which influence the price elasticity of demand are alternative commodities extent, the use of extensive merchandise and the importance of commodity in consumers' life. The elasticity of supply is a measure of the amount of change in the supply of goods.

3) Price elasticity of demand calculations.

The methods to forecast the price elasticity of demand include: point elastic calculation method, the elastic interval calculation method and mathematical statistics. While we will choose two methods to introduce that are point elasticity and arc elasticity.

First, we will introduce point elasticity. It refers to a point of elasticity on the demand curve. Setting the price in period 1 and period 2 for the demand period 1 and period 2 respectively, then set the price increments is ΔP and incremental demand is ΔQ , so its formula is: $= \frac{\Delta Q}{\Delta P}$. While the same kind of goods in different price ranges, its point of elasticity is also different.

The second is arc elasticity. The demand curve between two points is an arc elasticity. Using of arc elasticity calculation method to measure the price elasticity of demand mainly solve the point of embarrassment caused by lacking of information and data. It is the development of point elasticity computing methods.

III. THE ACTUAL ANALYSIS

Train is public transport which controlled by the government [19]. Allocation passenger evacuation is trains' nature of public service, but train service mainly demonstrate its' product attributes under normal circumstances. Offering

meals is profitable in train, so all long-distance trains are running fast-food offer.

According to the definition of need and our nature understanding, there is a reverse relationship between price and demand. When other things being equal, demand will reduce with rising prices and increase with declining price [20]. But there is limiting for ruler of demand, it refers to general commodities. The train offers meals just trains' battalion business and the limited capacity of train cars, so train operators are unlikely to put all energy to supply fast food and train fast food supply amount is substantially *stable*. But the number of train passengers is large, their demand for fast food greatly exceeded the supply of train fast food.

In accordance with the principle of demand, if the price increases, the demand will reduce; to the contrary, if the price increase, the supply of products will increase. It is this interaction so the market is in equilibrium. Analyzing train fast food pricing issues, we can take static equilibrium analysis. According to the above definition of equilibrium, a commodity or service which has lower prices will encourage the demand as much as possible in the market. If the price is too high, the willing and ability of consumers to buy the products will be down. Otherwise, the supplier will increase prices as much as possible, if the price is too low, the number of willing and able to provide goods or services for sale will reduce. Therefore, when the power of supply and demand is in balance, the market prices tend to remain constant then the market is in equilibrium. If the price is above the equilibrium, this time the quantity of consumers willing and able to purchase goods will reduced, which means that the markets have over supply, some producers will not sell products. If the price higher than equilibrium which may lead commodity producers can not fulfill their production plans. In this case, some commodity producers will cut prices to sell, leading to price decline on the overall market. However, as long as the market price still over supply, the market price will be gradually reduced until it is equal to equilibrium price where the supply and demand is equal. Similarly, if the market price less than equilibrium price, everyone will rush to buy the products and the commodity producers will increase. For the above reasons, the market price will rise until it reaches equilibrium price. In general speaking, a commodity is always under the force of demand and supply in the market.

The number of fast food demand in the train is great, if the train snacks maintain the original price, then there will be competitive and not conducive to obtain excess profits. In this situation, in order to obtain extra profits and run the train safely and stably, the train operator will increase the price of products. In general, fast-food is daily consumer goods which lacks of elasticity of demand, but on the train, it will become a flexible rarities, therefore the price changes will greatly affect passengers' demand for fast food. As prices increase slowly, low-income passengers will start to reduce the demand of fast food. The higher the price of train snack; the less the demand of train meal until it reaches the equilibrium of supply and demand, thus the price of fast food on the train is much higher than in market. Meanwhile the choice of fast food in train is generally those with higher income or middle-income groups.

IV. CONCLUSIONS

We just analyzes fast food high prices in a train from the supply and demand, in fact, it also affected by other factors, such as the train is a monopoly sector, providing a large number of fast food will consume too much manpower and transportation costs, then at the same profits they will choose to maintain quantitative supply, raise prices to keep supply and demand balance.

High-price fast food in train has become the meal of majority high-income groups. A large number of migrant workers and students choose to ride the train but their will not buy fast food in train. I have several suggestions, such as the relevant departments take moderately lower prices and increase the supply of fast food, so that ordinary people are starting consumption. The second is more portable to consumers who buy some convenience foods, such as instant noodles, bread, milk, rice pudding and like.

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