Research on psychological characteristics of passengers in terminal and some related measures

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Abstract

In order to meet demands for traveling of passengers and the requirements to the quality of the service, the construction level of terminals is to be higher. Passengers' activities in terminal are becoming complicated, so there is no doubt that the operation and management of terminal faces much higher request. In order to fully understand the psychological characteristics of the passengers and improve the transportation service and make people-oriented management measures based on the passengers' demands, this paper studies the various factors affecting the psychology of passengers in terminal, and analyze the passengers' general psychological activities and the psychological characteristics. In this paper, the dishonest phenomenon, the conformity psychology, expectation psychology and loss aversion psychology are thoroughly analyzed, and the focus is on the dishonest and conformity psychology phenomenon. A series of operational and management suggestions are proposed based on the characteristics and behaviors revealed.

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1. Introduction

With the development of social economy and the improvement of people's cultural and living standards, traveling needs are constantly growing. Social and economic development speed up the process of the transportation infrastructure network and comprehensive terminal makes the urban rail transit, including urban...
transportation, railway, highway and water transport and so many kinds of the modes of transportation link as an important constituent of transportation infrastructure network.

In the comprehensive terminal passengers appear as consumers and have certain requirements to the quality of the services provided by terminal. The process that terminals transport passengers to the destinations is providing all the services of the process when passengers move from initials to destinations. Passenger service projects should be made based on the psychological needs of passengers, and meet the needs of passengers in the implementation process; what's more, the level that passengers feel satisfied depends on the quality of the service. Therefore, the services provided by the comprehensive terminal transportation should be mainly based on passengers’ psychology and their psychological demands for traveling. Through the study and the full analysis, various psychological activities accompanying with passengers in terminals can be understood and grasped, which can make the transportation department adopt corresponding service measures in view of the different passengers’ psychological needs so that it can improve and enhance the service quality and meet the needs of the passengers' traveling and transferring better in terminal.

2. The factors affecting passengers' traveling psychological activities

Passengers are the users of subway, train or other means of transport. Passengers are the crowds that combined with the people in passenger transport system as the social individuals. These individuals get together because of common purposes, forming a temporary group. All the psychological activities passengers did in trip, as well as all the behavior results that are produced under the control of psychological activities are influenced by the factors inside and outside the transportation system environment, the main factors are:

   - The environment factors: people live in certain circumstances; the environment can be divided into the natural environment and social environment and the economic environment created by people.
   - Personal factors: in the personal growth process, everyone forms relatively stable psychological characteristics through environment edification, the education accepted, the social status and identity formed in personal development, which affect one person's psychological activities and results of behaviors.
   - Group factors: the passengers on travelling will inevitably interact with other passengers and have mutual influences and restraints between each other.
   - Transportation tools and services factors: the comfort, economy, safety, efficiency of transportation tools and the quality of the services provided by transportation departments will affect passengers' selection of traffic tools, which is also the direct reason for the conversion of passengers’ psychological activities into action.

Due to passengers' traveling psychological activities affected by the comprehensive functions of all aspects above, when understanding passengers' psychology, systematic methods should be used to comprehensively inspect every factor and its mutual relations so that the inner mechanism of the psychological activities can be grasped.

3. Passengers' general travelling psychological activities

According to the theory of psychology, the behaviors of people originate in mental state that is brought by the comprehensive formation of the cranial nerves, the so-called consciousness. It formed behavior when consciousness behaves the action. Psychologists think that if people have a need, it will stimulate a driving force known as motivation which then promotes people to seek the behaviors that can meet the demand. It is obvious that the essential significance of reading the motive is to exploit the needs of users. When the needs of users are met, they tend to evaluate the whole space environment positively; on the contrary, they tend to give negative evaluation, even producing bad feelings.

The purposes of traveling are varied, such as for business, traveling, visiting families or friends, etc. Meanwhile, the basic situations of the passengers vary from each other. Therefore, different psychological
activities of every passenger come into being because of different requirements for travelling. Passengers’ basic mental activities can be summed up as follows:

Security psychology: security is the first factor of consideration before travelling and the psychological needs that passengers hope to get, which is also the main criteria of measuring the transport service, including passengers’ personal safety and package(property) security. Each passenger hopes the station has the good security and public order, because it will make passengers uneasy if the public security is bad.

Quick psychology: the quick has several meanings, including smooth, rapid, and economic and others that passengers care for. Passengers always hope to arrive at station smoothly, get tickets, meanwhile, the car can set out and reach on time, accidents or delay won’t happen on the way, and as people’s concept of time is strengthening, passengers have the requirements of making the intermediate links as few as possible, and shortening the traveling time in order to reduce traveling fatigue and the extra expenses.

Convenient psychology: "convenient" is to reduce various middle linkages while travelling, achieve the purpose of "quick". Passengers hope the whole travelling trip to be convenient which is a very common kind psychology whose content is very wide: passengers always hope to have the column and car (ship, plane) most suitable to their own travelling habits and the time, buy a ticket and check the ticket without a long row, and have convenient and economic diet service, telecommunications, daily life needs, accommodation services, other guides. Anyhow passengers hope to get timely transportation and assistant satisfactory services as soon as they have traveling needs.

Comfortable psychology: this is the advanced stage of passengers’ psychology, which is the comprehensive demand of all sorts of the psychological requirements. As people's living standards are improving, passengers are paying more attention to comfort and have more requirements to environment, cultural entertainment, diet, rest sleep, etc. This strength and level of demand is influenced by many factors, especially the length of travelling time.

Traveling psychological impact factors are various, "safe, quick, convenient, comfortable" solidify passengers' the most centralized and fundamental of the common psychological demands, are also the service target that transportation department are trying to achieve and paying most attention to.

4. The analysis of passengers' psychological activities and some feasible suggestions on the operation management of terminal

4.1. Dishonest phenomenon

In terminal there are also a lot of dishonest phenomena, particularly in passenger transport peak. Such as during the winter and summer vacation, the Spring Festival holiday, many passengers get on the train or bus without buying tickets. Actually, each carriage is prescribed in the number of bearing, so this kind of behavior not only gives inconvenience to the work of crew, but also has produced certain adverse impacts on other passengers' behaviors, furthermore, making unsafe factors exist. Management departments have taken up a lot of measures to stop this kind of phenomenon. The most basic one is that if you are found to have no tickets when checking the tickets, you need to buy your tickets after the normal time and also pay part of the money in a certain proportion. However, results are unsatisfactory.

Because, people often work out of their own inner power, and something is once hooked up to punishment or reward, it becomes a kind of economic transactions. By train or long distance bus, some passengers have no tickets before getting on the bus and choose to buy the ticket after the normal time, they are not for the dishonest psychology, let alone being afraid of spending more money, but may have no time to go to the station to purchase their tickets in advance. At this time small punishment is no better than no punishment, because passengers will not sacrifice their so-called precious time to standing in a long line to buy tickets in the ticket lobby because of the little punishment. From the point of psychology to analyze the measures, people live in two different worlds,
one of which is guided by the social norms; the other is dominated by the market rules. Social norms include people’s friendly request between each other, also including the outlook on life and values. The other world being different from the first one is dominated by market rules where there is no friendship and very clear boundaries, and almost all things are measured by money. The warnings that what is banned and you will be fined if you don’t obey it don’t work, however, it is getting worse and worse as money can’t buy high quality education, the reason of which is that at this time the people are in the world dominated by market standard rule, the fine-money that is the indication of market rules forces the social norm to exit, at this time, passengers are spurred by the market rules. As transport hub is concerned, measures with the color of "market rules" have no effect, so administrative department are advised to make measures from the point of "social norm".

On the other hand, scientists have classified the region in the brain of a man connecting with the state and the mood of a man as "happy central" (Pleasure Center, also known as the "Pleasure central", "happy Center", "happy central") and "altruistic central", at the same time, unlike the brain area controlling people's movements, happy central and altruism central cannot at the same time operate; either he or she has the control, namely that their behaviors cannot be coordinated. Before the introduction of money as punishment altruistic central has the control because the passengers at this time are balancing the convenience of not going to the stations to buy tickets in a long row in advance and reducing the trouble to the train staff and the interference to other passengers' comfort. On the other hand, the introduction of a fine will make two central positions reverse. Since then, happy central (self-interest central) begins to take over control, and money becomes the motivation sustaining the state. People's minds faces a choice: on the one hand, it is the convenience of not going to the stations to buy tickets in a long row in advance; on the other hand it is "make a fine". But in most cases, less fines is not enough to make happy central get excited. This situation can be described as there are two engines that cannot run at the same time in the brain. People either receive a task from the point of view of altruism, or engage in a job from the point of self-interest. Two different engines need different energy to drive. In addition, it needs different energy to start two engines. Meanwhile, starting altruism central does not need too much energy: only need the excellent feeling that they are helping others or influence others positively. But, starting happy central seems to need more energy. It can be concluded that in terminals the formulation of relevant system measures aims to make "altruistic central" in a state of excitement. In the process of management and operation in terminals, this kind of psychological characteristics can be made full use of to formulate relevant regulations and measures to try to make "altruistic central" guide passengers' behaviors. Inside terminals, "queuing glorious and cutting in shameful" good atmosphere is advertised to create and the standard of the passenger' riding ideas is to be improved, which can contribute to make every passenger regard the construction of good cultural environment in terminal as his own responsibility. By strengthening the concept that building good atmosphere cannot leave every passenger’s efforts and making each passenger feel the sense of responsibility and honor, making "altruistic central" as the leadership, rather than imposing the fine which is a cold way to put an end to uncivilized phenomenon in terminals. For example: lessons from some famous spirited mot can be drawn, forming a secular guarantee to remind the passengers of being honest, the reason of which is that according to the weakness of human beings, people could remain honest if getting about moral reminder in the moment of temptation. At the same time, the slogan promoting morality and honesty can be hung in the entrance of the transportation hub, and other key and striking positions to improve the masses' attitudes and subjective behavior norms to violating behaviors.

4.2. Conformity phenomenon

The comprehensive terminal is a crowded place, especially during the Spring Festival and golden week holidays, where various conflicts of interests exist, the rights and obligations intertwined which easily forms local opposition groups and leads to sudden mass incidents causing the crowd to gather, protest, block the door, besiege and other phenomena, which is a serious threat to safety production and social stability. The contradiction that results in passengers group events includes: passengers go back to visit families, travel for work, or study on
business, the quantity of the personnel seriously exceeds the capacity of station reception, which gives rise to the declining of the efficiency and the quality of the service and causes the passengers to linger in the station, so passengers' rights may be infringed and contradictions with the station forms; the station service personnel work overtime and are in fatigue, producing bad mood, at this time it is difficult to perform his obligations which brings about contradictions between passengers and service personnel; what's more, some individual outlaws retaliate against society and incite group to siege utilizing the irrational thoughts of the group.

In order to weaken the group events, group psychological activities of the participants in the event must be comprehended. The fact that men are social animals makes people live in all kinds of conflicting states. Simultaneously, conformity psychology is a kind of common psychological paradox. "Conformity" is commonly known as the "flow", whose performance is the harmonious of the individual's opinion and behavior with group's. Conformity psychology will cause consistent behaviors, it is the social pressure and groups pressure existing in the reality or being imagined in the mind that makes people produce the faith to conform to the requirements of the society and groups, which is conformity psychology, in other words, if individual’s behavior is in consistence with the group's, individual will feel the balance from their heart; on the contrary, individual will take some actions to adjust their behaviors and objectives to be in consistent with the group's. All kinds of people gathering in terminal, almost all passengers' behaviors will be will be influenced by others’ and infer that something is good or bad based on other people's behaviors to determine if they will follow, in the meantime, this kind of psychology is the main factor of group events which is called herd psychology in psychology. Men are animals being fond of clustering, the meaning of which is that in the life the people will vest himself to the corresponding segment of the population consciously, even forming a temporary group for the same purpose; hence passenger groups belong to this. In the group incidents, the negative thinking has stimulative effects. In this process, people group can hide individual, which makes individual's sense of anonymity enhance and makes individuals emerge the thought that they will have no responsibility for the bad influence. However, the sense of anonymity is the important psychological factor to increase the possibility of attacking. The individuals of the group tend to think that the bigger the group is, the more power they will have, the more effective the group becomes, the more the threat will be caused; moreover, the stronger the ability of dealing with the extra stimulation from the outside world or difficult situation will be.

Based on the analysis above, the administrative departments in terminals are advised to guide the negative conformity psychology and convert the negative conformity into positive one, the reasons of which are that positive conformity can promote the formation of social common norms and common values (Hou, 2007). Inside the terminal, if people abiding by the standards are in the majority, the individual will feel nervous whose behaviors are inconsistent with the groups' according to people's willingness to follow others. At this time, the individuals will change their wills and behaviors and take consistent behavior as far as possible to the agreement with the group be under the influence of conformity psychology so as to gain the goal of reducing behaviors of the violation of norms. The consistent individual behavior reflected by conformity psychology have the characteristic that individual behavior is made to be in the agreement and coordination with the group, in a certain range and conditions, which can cause the behavior of the individual developing into the behavior of the group in a positive and healthy direction. In the process of implementing the administrative departments should guide the individual to overcome blindness and choose the right "target". In real life, the differences between people in their moral cultivation, educational level and the abilities for problem lead to the obvious difference in their choices of the "target" for individual. Some passengers often cannot choose a right "target" which results in blind "conformity" and blind imitation, which brings about the deviation between the thought and behavior and has led to group events and produced negative impact. Therefore, transportation departments must do propaganda work to make passengers well known of the standards, thus making people not follow the laggard one but aware of the progressive one and follow the right group.
4.3. Loss Aversion Psychology

Loss Aversion proposed by Daniel Kahneman revealed that as most of the cases can be calculated, the calculation of the value of the loss is twice higher than the same things they get, in other words, people often give more preference to the things they have lost instead of the same things they have owned, namely the deviation between judgment and decision (Tversky and Kahneman, 1991; Kahneman et al., 1991). The researchers of the British transport researching laboratory found that no one likes to wait; especially no people like to transfer. The average waiting time of passengers is equivalent to the actual psychological time waiting for 1.8 times. In addition, the interaction mentality will seriously affect the next choice of the mode of transportation reflecting people's sensitivity to the loss. In order to weaken the agitated psychology while passengers are waiting, transportation departments should strengthen the extension services and the station services, such as strengthening the organization and management of hotels and catering services to satisfy passengers' needs for accommodation and foods, dealing well in the coordination with other traffic tools to meet the demands for rallying, evacuating, transiting, reinforcing the organization of passengers when trains happen to be late and other emergencies resulted by operation problems, such as, increasing shopping, eating, entertainment, and rest, and other service facilities.

Inside the terminals, if there are two routes to a place, passengers tend to choose the one he chose previously or the terminal planned initially, and the utilization rate of the newly planning one is often not high, having not reflected its value. Analyses of the psychological activity behind the decision-making behavior turn out that it is just the preferences to current situation (Status Quo Bias). Because of having added so high value to something they owned, people aren't willing to make decisions to change the status quo, which refers to one kind of loss aversion phenomenon that the individual in decision-making tends not to do some changes and maintain the current or previous decision (Xi, 2004; Xi, 2010). It is the loss aversion psychology when changing the status quo that leads normal people to satisfy the current situation easily. For this kind of phenomenon, the relevant departments in terminals should improve the instructions to the newly planning path or entrance to guide the passengers well. Because passengers have the leading psychological demand in a closed environment, to identify the environment in an enclosed space is a major problem for users. Furthermore, the environment with a clear direction tends to make people have a lot of spirits, reduce unease, and improve the cognitive abilities of the users, which makes it easier for people in a closed space to find path and select path, especially for passengers who are transferring or aren't familiar with the city within the terminals. In fact this is also the embodiment of passengers' loss aversion psychology. People in the face of getting risk of losing, in other words, when facing two paths or entrances that one is guided well and the other badly guided, since all is unknown ahead, passengers will choose the well-guided one based on their loss aversion psychology. Therefore, the terminals, in the process of designing and managing, should plan the routes systematically, make full use of the role of indication, and guide passengers' psychology and behavior to improve passenger' satisfaction.

4.4. Expectation Psychology

Before going out for the passengers, they all inquire the surrounding people whether some traffic tools are convenient and which train is comfortable, convenient, this time the passengers have some kind of expectation slipped by others, beginning to purchase tickets and taking trains or buses. So the passengers are often controlled by the opinions of the people around. Anchor effect refers to the "first impression" which is a kind of "anchor" can locate, once decided, the information accepted later are often affected by the "anchor", and in many cases this "anchor" hasn't been noticed. At this time the "anchor" is slipped by other passengers, if others told them this train is convenient, fast, so even it is slow in fact, they also tend to believe that the train is really fast; if someone told them this train with the filthy environment is always late, passengers' moods will also be affected and irritable although environment is better or in general, even they will complain to the people around. This is the
“expectation psychology” of passengers in terminals. These psychological effects are similar to the usual saying that "first impressions are strongest", which is to say, as soon as people are influenced by the first impression, the information obtained later all have subjective partiality which are often partial to prove their first judgments, and people even ignore or twist some information which can correct their prior judgments.

Expectation psychology includes an irrational behavior--confirmed preference, which means people often have a tendency to confirm their views, that is when having an opinion, the people will unconsciously seek for evidence to prove it, in other words, people often tend to pay excessive attention to the evidence supporting their views and ignore those new information denying the idea so as to constantly solidify the recognition to their choices (Shao and Li, 2005; Ariely, 2011; Xu, 2010). When choosing a train or bus, passengers with the descriptions given by others, on process, are often particularly sensitive to or easily accept the information supporting the description, regarding this favorable evidence as related and reliable, and seeing the negative evidence as the results of accidental elements. For example, the personnel working in the train or bus are doing some cleaning, perhaps passengers generally won't pay attention to such phenomenon, however, just because someone preciously described that the train is clean, they will be particularly sensitive to this phenomenon and tend to prove the fact that the train or bus or other traffic tools are clean.

5. Conclusions

As passengers' traveling demands are growing nowadays, the country are continually meeting the travelling demands of passengers, improving passenger transport service quality and ameliorating the national transportation situation through the development and improvement of modes of transportation. However, in this process the analysis and research on the passenger's psychology and behavior cannot be ignored. Only by understanding what the needs of passengers and what their thoughts can fundamentally solve the service level problem. In view of the problems existing in terminals, when formulating regulations and measures, the relevant departments should analyze the passengers' psychological activities systematically and take them into account to understand the needs of the passengers and take accordingly measures to the results, which can not only ensure that the diverse needs of passengers are met fundamentally, improve the quality of passengers transport service, reduce costs, increase efficiency, and enhance safety, but also contribute to wipe off the large numbers of outstanding contradictions having emerged in passenger transport process.

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