Mini Review

Internet + and Transportation System

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Abstract

With the rapid development of the Internet, our life is inseparable from it. The introduction of "smart transportation" is the embodiment of the Internet + transportation system. In the near future, the Internet + transportation system will become a central issue for development. Extract real-life examples from real life and show the changes that the Internet + transportation system has brought to our travels. At the same time, this passage will describe the problems existing in the existing transportation system and propose countermeasures for the corresponding problems.

Keywords: "Internet +"; Intelligent transportation; Convenient transportation

Introduction

The transportation system is a comprehensive system consisting of five modes of transportation: railway, road, waterway, aviation and pipeline. It has a great effect on social production, economic development, and the improvement of people's material and cultural life. Nowadays we can use navigation system with real-time road conditions, real-time bus arrival information and so on. They are all examples of the combination of the Internet + and the transportation system. These changes have brought great convenience to people's travel.

The Basic Connotation of Internet +

In November 2012, "Internet +" was first proposed. "Internet +" refers to the comprehensive integration of Internet services with various industries such as industry, commerce, and finance. In popular terms, it is "Internet + various traditional industries". But instead of simply adding the two of them, we use ICT and the Internet platform to integrate the Internet with traditional industries. The key to Internet+ is innovation. With innovative ideas and innovative services, this "+" can be truly valuable and meaningful.

Internet+ has six characteristics: cross-border integration, innovation-driven, reshaping structure, respecting humanity, opening up ecology, and connecting everything. Using information and communication technologies and an Internet platform, the Internet is deeply integrated with traditional industries. The collision of two different industries will inevitably produce different sparks. "Internet +" is essentially innovation, and innovation is the primary productivity that leads development. Without innovation, economic growth will be difficult to sustain. Therefore, we must change our thinking and move on to the correct path of innovation-driven development.

Changes Brought by the Combination of Internet + and Transportation Systems

In the railway transportation

After the China Railway opened the ticket sales for all the trains at the end of 2011, the sight of the train station "A long line is snaking out" was gone forever. In recent years, the proportion of tickets sold on the 12306 websites has been continuously increasing. The proportion of tickets issued through mobile phone clients has also been increasing. Online ticket sales have become the most important channel for ticket purchase. People can open the 12306 websites on their mobile phones or computers. The ticket information can be purchased, and the purchase of the train ticket can be completed through online payment. The appearance of the Internet ticket purchase has brought great convenience to people's travel.

China Railway also launched the 95306-railway freight e-commerce logistics platform in May 2015, which greatly promoted the development of e-commerce and the rational use of resources. The 12306 websites also provide a late inquiry, which is convenient for people who pick up and drop off passengers. It is no longer necessary to wait in the waiting room for a long time, and it also reduces the pressure on the station.

We all know that the busiest time of the railway system is the annual Spring Festival travel. Internet companies can use the location information sent by users to count the number of people moving in and out. Through the ticket purchasing platform, you can roughly calculate which city pair the demand for railway transportation is larger (see Figure 1). Which line has a larger demand and how much ticket demand there is. By reading these data, the railway department can more accurately open the train and let more People can go home to spend the Spring Festival. At the same time, the Internet company can also link with the station, statistical station to accommodate the number of people in real-time and security check speed, and then use the Internet platform to publish, users can read these data to better arrange their own trips, so as not to miss the ride (Figure 1).

Figure 1: Top Ten Departure Cities for 2017 Spring Festival Online Ticket Purchase.

In the road transport

In the road driving, we pay more attention to improve the driving speed and reduce the accident rate. By collecting the real-time traffic information reported by the user, we can give timely reminders to the vehicles to make new route planning and reduce the vicinity of the accident site. Driving pressure to reduce the occurrence of road congestion; Secondly, the Internet big data platform can extract the real-time traffic speed of the road by extracting the information of the road monitoring equipment, providing users with more accurate navigation information, improving the efficiency of road transportation and reducing traffic pressure in heavy sections. The traffic pressure of the road section; the Internet big data platform can also give the driver accurate information by counting the frequency of accidents in a certain road section to reduce the incidence of accidents.

In the handling of traffic accidents, the establishment of the Internet + traffic accident handling platform can realize the rapid settlement of traffic accidents. Once a light traffic accident such as scratching or rear-end collision occurs, the owner can use the WeChat platform to alarm or learn about online alerts. The center directly conducts accident identification and claims. Using this method to quickly deal with minor traffic accidents can reduce traffic congestion and secondary traffic accidents caused by the timely removal of road traffic accidents and reduce the burden on the accident handling police.

In the taxi, the function of the "intelligent traffic information system" is gradually stronger. Through the data transmitted from the real-time monitoring system, the traffic control department can grasp the city-wide rental car rate in real time. Through the new equipment in the car, the functions of management, alarm, card swiping, and charging can also be realized.

In the field of network car, the emergence of the network car platform, such as Didi Travel, Uber, etc., has brought great convenience to the people who need to take a taxi. Among the many platforms, Didi Travel is a "taking a taxi" application that users love. It is a well-known free taxi platform in China and is called a mobile phone "artifact". At present, Didi has grown from a taxi taxi software to a one-stop travel platform covering taxis, special trains, express trains, rides, drivers and buses.

In the field of public transportation, the Internet platform can provide passengers with detailed bus route planning information and transfer guidance and can also obtain real-time arrival information of the bus by correlating with the real-time positioning system on the bus to provide passenger travel planning. Useful reference; Secondly, the use of Internet payment in the payment

of public transportation fees can solve the trouble that passengers do not have change and no change in the bus, which gives great convenience to the bank.

In the field of shared bicycles, the emergence of shared bicycles solves the problem of "the last mile of travel". Shared bicycles are called "new four inventions". People can unlock a bike by scanning the QR code through the mobile app. Cycling on the road, low carbon, environmentally friendly and convenient.

In the field of smart driving, Google's current self-driving cars have begun to take the road, and the US government has licensed Google's self-driving cars to start selling. Intelligent driving technology is a deep combination of artificial intelligence and the Internet. Once this technology is matured, it can truly liberate the driver's hands and reduce the accident rate of road transportation.

In the air transport

Nowadays, the "Smart Airport" ideas put forward by some airports are the embodiment of "Internet +" and air transportation depth. With the support of big data, the airport makes full use of the Internet to carry out security inspection systems, flight management systems, and baggage check systems. Deep integration of airport guidance systems, geographic information systems, weather forecasting systems, patrol systems, and public address systems can improve their management and facilitate passengers' inquiries. Nowadays, many airports in China can complete flight inquiries, airport weather inquiries, online check-in, online baggage and other operations through the official website, official app, and official WeChat public account. For example, passengers at Shanghai Airport can not only complete the basic inquiry operation through the WeChat public number of Shanghai Airport, but also receive real-time information such as flight real-time dynamics in various airports. Combined with WeChat Shake and Tencent maps, Shanghai's famous leisure and entertainment venues, such as Disneyland and Oriental Pearl, can be clearly seen on mobile phones. Passengers can view the panoramic map navigation through the Internet, and enjoy various airport value-added services such as VIP service, shopping guide, car rental service, etc., which not only facilitates the passengers to enjoy various public services of the airport, but also enables the management of the airport. More intelligent and orderly, the airport's revenue has been greatly improved.

Existing Problems and Countermeasures of Internet + and Transportation Systems

Problems and countermeasures in railway transportation

First, the 12306 online ticketing system is still not convenient enough, and the operation is cumbersome. In the 12306 online ticketing system, if the user's mobile phone number is registered by others, the user needs to go to the station service window to untie the next step; For the first time, some users purchase tickets on the

12306 online ticketing platform. After the identity information is entered into the ticket purchasing platform, the account is in an unverified state. If you need to purchase tickets immediately, you need to go to the station service window to check. The existence of these two problems has brought great inconvenience to the user's online ticket purchase. If the user encounters the above two problems, the instant identity information is all correct, and also go to the station service window for further identity verification before they can be in the network. Buy tickets on the platform. Nowadays, network authentication technology has been rapidly improved. Some large-scale network platforms can automatically identify ID information by taking pictures and can also perform face recognition through video recording to ensure the authenticity of identity verification. By introducing these two identification technologies, the 12306-network ticketing platform can completely solve the above two identity verification problems and optimize the user experience of purchasing tickets on the network platform.

Secondly, the service performance of the 12306 online ticketing platform is insufficient. In the case of ticket purchases on holidays, there are cases of system access failures and slow ticketing. When some users use 12306 websites to purchase tickets, they will be charged repeatedly for one ticket. Users have an unlimited number of upgrades when using the 12306 mobile app. Insufficient supply of holiday tickets is a problem that has always existed. China has a large population and large passenger demand. Railway departments should rationally arrange train operation plans, increase the number of trains in great demand, increase passenger traffic and invoices, which can reduce the pressure of ticketing system to a certain extent; some technical problems of the system need to increase research and development and testing efforts, redesign business processes, and upgrade the old IT system.

Third, the information integration level of the ticketing platform of the railway department is low. In the three developed countries of Japan, France and Germany, the design of the high-speed railway station is fully considering passengers in the security check-in, waiting in the waiting hall, getting on the train and getting on the train. Fully taking into account the consistency, continuity and readability of the display and broadcast system information, to ensure that passengers can obtain important information when taking the train. The Japanese high-speed railway company pays more attention to the style of the station-oriented equipment and the standardization of its standards and realizes the integration of the guiding equipment and the station environment. Open a comprehensive passenger service information center to provide effective information on station information and information dissemination for railway staff. The data of the passenger service information center and the railway traffic dispatching system exchange data to automatically obtain the basic information of the train operation, and then automatically display the information in the display screens of different areas of the station or provide relevant information to the passengers through the broadcasting system. Although the stations in China have built subsystems such

as electronic screen display system, broadcasting system, inquiry system and registration system, due to various reasons, the styles and standards of the guiding equipment of stations at different stations are not uniform, and the information displayed is consistent, continuous and available. Readability is generally poor. China's railway sector has considered less information integration and system integration. Various service facilities are in an independent state, and information integration and integration applications have not been realized. To solve this problem, the railway head office needs to develop uniform standards. Each station is equipped with the same guiding equipment, develops an integrated information processing system, integrates vehicle scheduling information, and integrates information systems with electronic display systems, broadcasting systems, and query systems. Integration, automation of information transfer, ensuring consistency, continuity and readability of information dissemination.

Problems and countermeasures in road transportation

First, in the road driving, the "Internet + Road" service is not popular. At present, most vehicles are still not equipped with Internet equipment. Although smart phones are very popular, in the urban roads, the real use of "Internet + roads" There are very few people serving, and the problems of road congestion, high road occupancy, and difficulty in parking are still serious. To change this situation, car manufacturers need to increase research and development efforts, and strive to reduce the cost of "Internet + Road" service operation and popularize "Internet + Road" services.

Secondly, in the field of network-related vehicles, due to the lack of strict review of the network-to-vehicle platform for the arrival of the network-related vehicles, the drivers of the network-related vehicles are not uniform, and the safety of the vehicles is not guaranteed. Secondly, the driver evaluation mechanism for the network car is not perfect. Some customers do not dare to point out in the evaluation system even if they are dissatisfied with the service in order to avoid telephone harassment; some drivers, in order to get high evaluation points, hire the water army Brush evaluation votes, the real evaluation situation is difficult to show in front of users. In addition, at the time of the surge in complaints, the network car platform could not deal with passenger complaints and rights protection issues in a timely manner. After a traffic accident, when the insurance company did not verify the claims, the passengers' claims could not be obtained in time. solve. In view of the network car platform, the current law still has a blank, which requires the network car platform to increase supervision, provide better service, the government and the network car platform for data exchange, in order to better solve the network car problem.

Thirdly, in the field of shared bicycles, due to the unreasonable sharing plan of shared bicycle providers, the urban capacity is limited, and the surplus bicycle capacity in some cities is excessive, resulting in a large amount of resources being idle and wasted, and at the same time, due to the randomization of shared bicycles, It has caused a lot of trouble for city management. The spurt development of the shared bicycle industry, some enterprises due to unreasonable planning, poor management, resulting in bankruptcy, resulting in the difficulty of users to withdraw the deposit, but also to some extent limit the development of shared bicycles. At the same time, the situation that shared bicycles are intentionally damaged, stolen, and turned into private transportation occurs sometimes. Some shared bicycle designs are unreasonable, the height of the seat bag is not well adjusted, the seat bag is too hard, the body is too heavy, and the user is very bad. The user experience greatly reduces the usage of shared bikes. Secondly, some shared bicycle platforms require users to register their real names, and how can the security of information be guaranteed? In the face of these problems, the shared bicycle platform should fully investigate the market situation, rationally put into operation, properly manage, optimize the shared bicycle design, optimize the bicycle unlocking process, reduce the riding cost, and give the user an enjoyable riding experience; the government department should design the urban road Independent bicycle lanes and adequate parking spaces for bicycles actively promote the socialist core values, enhance people's basic qualities, and actively combat criminals who deliberately destroy shared bicycles and steal shared bicycles.

Comprehensive problems and countermeasures of transportation system

Buses, buses, subways, trains, high-speed rail and air transportation are already developed in some cities, but different modes of transportation are isolated. People from one place to another do not have a comprehensive guiding plan. Not to mention the completion of bus tickets, train tickets, airline tickets reservations and itinerary arrangements in one station. In foreign countries, after years of upgrading and perfecting, a comprehensive set of travel, booking and value-added services has been formed. Information system, in Germany, people can use one-vote communication service to achieve one-vote system with civil aviation, passengers can easily transfer with only one ticket. If China wants to realize such a service, it needs to link each company to formulate unified standards, develop an integrated service system, and put it into use at various stations [1-5].

Conclusion

We are in the third period of industrial revolution. Human beings have undergone major changes in all aspects of daily life such as clothing, food, housing, transportation, and use. Transportation is the foundation of economic development and the basis of people's happy life. Today, when the Internet is booming, the Internet + transportation system will become a future trend and will become a new economic growth point. Intelligent travel will also make people's lives more convenient in the future. The development of the city will bring greater traffic. The prosperity has spurred more updated business models in the transportation sector.

Acknowledgement

Conflict of Interest

No conflict of interest.

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