

発表原稿 (in Vietnam)

1,

I'm so glad to be here and have a presentation.

My name is kensuke hishida. I'm a master of civil engineering of Kyoto University.

Today, I would like to introduce the Japanese traffic settlement system.

In Japan, The traffic settlement system with contactless IC card spread rapidly.

2,

First, I'd like to talk about the background of the rapid spread of the new traffic settlement system.

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This graph shows the predicted population growth of Japan.

The Japanese population decreases after 2005.

According to the prediction of the Japanese population, the decreasing trend will continue in future. We can predict that the decrease of the population will have a big influence on the profit of the traffic company in future.

4,

This graph shows the car ownership trend in Japan.

The number of the car ownership in Japan doubled in 25 years since 1980. Now in Japan, there are about 8 millions cars.

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As the number of car users increases, the number of railroad user decreases. Currently, the number of railroad users is on the decrease.

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This graph shows the change of the number of railroad users of some private railway companies in Japan. From this graph, we find that the number of railway customers decrease to three-fourths of that of 1990.

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Due to motorization and the population decline, the number of railroad users decreased.

So profit improvement became a focus for railway companies.

And they have to reduce expenditure and increase their incomes.

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To increase incomes and attract more customers, they need to improve stations and services. What is more, the expansion of the allied enterprise is needed.

And to decrease expenditures, they need to reduce their operational cost by promoting the automation.

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In order to realize these remedies, they can make full use of IC technology.

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By computerizing tickets, the following is enabled for traffic companies.

First, commuter pass counters and ticket vendors can be abolished. Second, the trouble risk of the automatic ticket gate can be reduced because of non-contact between tickets and the traffic gates. Thus operational cost can be reduced.

Third, the open space which is made by abolishing counters and gates can be utilized.

Forth, variety of the rate setting can be easily utilized. Thus much more customers can be attracted.

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Next, I'd like to introduce some examples of the traffic IC card in Japan.

There are a lot of examples, but I'd like to introduce the four cards with many users.

This traffic IC card is called ICOCA card.

This one is called PITAPA card.

PITAPA and ICOCA card mainly are used in west Japan.

This one is called PASMO card. This one is called SUICA card.

PASMO and SUICA card mainly are used in east Japan.

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There are 20million SUICA cards, 10million PASMO cards, 3.78millions ICOCA cards and 1million PITAPA cards.

We can find that there are more traffic IC cards in east Japan than in west Japan.

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PITAPA card utilizes the post pay settlement system.

SUICA and PASMO card adopt the pre paid settlement system.

We can find that prepaid fare system is used by much more people than the post pay fare system.

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PASMO which utilizes the pre paid fare system spreads rapidly like this. The use of PASMO card was started in March 2007 and within 2 and half years 10million users subscribed to it.

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Pre paid fare system is used by more people, but actually which system is desirable?

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As you know, in pre paid fare system, the passengers purchase a right to a future service use in advance like a commuter pass or a coupon. And, they can take rate

discount in beforehand instead of abandoning their right not to use a service. Because the settlement is completed earlier and total fare doesn't depend on the purchase history, they will bear 100% of the demand risk.

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In the post pay settlement system,

The passengers pay a rate based on the consumption history of the fixed period after any services. For example, it considers a credit card. In this fare system, they can take discount option. But if they don't use a service next, the discount option doesn't make sense. Thus In this system a consumers and a company share the demand risk.

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As the structure of the risk sharing is concerned,

In the pre paid fare system, a consumer takes 100% of a demand risk.

In the post pay fare system, the traffic company and the consumer share the demand risk.

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In the pre paid fare system, the user doesn't need to purchase a ticket whenever they use a traffic service. But if there are few opportunities to use the service, then the user will suffer a loss. Because they have already paid some money to buy a pre paid card.

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Next, I'd like to talk about advantages to the company.

First, the traffic company using the system can get large amount of money beforehand.

Second, the company doesn't need to take the demand risk.

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In the post pay settlement system, a passenger can avoid to suffer a loss.

Even if there are few opportunities to use a traffic service, he will pay the total fare which balanced with his purchase history.

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On the other hand, the traffic companies can get some information about their customers. So they can get more optimal fare setting but they have a risk about their incomes because the fare is paid after being used a service.