

Title	カーシェアリングサービスにおける利用者マナー 日 米における事例研究
Author(s)	増田, 和浩
Citation	
Issue Date	2013-03
Type	Thesis or Dissertation
Text version	author
URL	<a href="http://hdl.handle.net/10119/11275">http://hdl.handle.net/10119/11275</a>
Rights	
Description	Supervisor:神田 陽治, 知識科学研究科, 修士

# Users' Manner in Car Sharing Service: A Case Study in Japan and the United States

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March 2013

**Keywords:** car sharing, users' manner, periodical maintenance

Car sharing is a membership-based system involving the use of one car by two or more people. Rather than owning a car, members use a car for the periods of time when they require one, and pay for its use. Car sharing started in Europe in the 1980s, and spread to the United States in 1999. In Japan, the system was introduced around 1999 by local governments as a pilot program to reduce carbon dioxide emissions and traffic jams. The car sharing business expanded in Japan in 2010 after deregulation in April 2006, when many companies launched car-sharing businesses. After 2010, it grew rapidly, mainly in big cities. In the United States, the car-sharing business has been growing rapidly since 2007. However, the rate of dissemination of car sharing is still far from 1% of the population in both Japan and the USA. There are many problems to solve before it can become more widespread.

The main purpose of this thesis is to analyze the manners of users of the car sharing system, which is a self-service system. It investigates how the manners of users influence value sharing in a self-service system. Self-service is regarded as a service that is the opposite of full service with hospitality. In a self-service system, people receive a service through their own physical activity, and this does not tie them down with regard to time. However, self-service releases people from the burden of interpersonal relationships. Car sharing is one of the most advanced examples of a self-service.

We studied background information on the car sharing system, as well as the reasons why the car sharing system is not becoming more widespread, despite having expanded remarkably.

We surmise that people are resistant to sharing, and that the appropriate measures have not been taken to remove their mental rejection.

We conducted interviews with companies in Japan and the US, as well as Japan Advanced Institute of Science and Technology (JAIST), about the manners of users of the car sharing system, based on a major research question (MRQ) and three subsidiary research questions (SRQs). MRQ: “How are the user manners formed in a car sharing system?” SRQ1: “What are the components of a car sharing service?” SRQ2: “How have business operators been improving the manners of users?” SRQ3: “What do car sharing users think of the manners of people who car share?”

We carried out interviews with four Japanese car sharing companies, one USA car sharing specialist, two local companies in Ishikawa Prefecture, Japan, one big car sharing company in Tokyo, and another big car sharing company in the US. In addition, we conducted nine interviews with JAIST students who are members of a local car sharing company (Hokusei-Sangyo) to find out how car sharing users feel about the manners of people who car share.

SRQ1: What are the components of a car sharing service?

The interviewees answered that the following elements are necessary for a car sharing service.

- (1) Vehicles (“WA” number in Japan) + special equipment
- (2) Parking lot (place to return the car)
- (3) ICT (an unattended service for rental and return of vehicles, door unlocking and locking, payment, problem solving, remote administration of vehicles, message service, etc.)
- (4) Customer support (back office)
- (5) The company shows members the rules, and members follow the rules as user manners. The company performs cleaning and maintenance of vehicles periodically to improve the value of service.

In the case of a US company, Zipcar, there are six rules; 1) Report of damage, 2) Cleaning after use, 3) No smoking, 4) Supply of fuel if necessary, 5) Returning of vehicle on time, 6) Following guidelines for transporting a pet in a vehicle

SRQ2: How have business operators been improving the manners of users?

(Z company in the USA and Japanese companies)

Strict screening of the membership is conducted to remove members who may cause trouble with other members. Training is also offered to members to maintain a high-quality membership service. In addition, service for ICT users is improved.

There are no strict rules such as those of Z company in Japan. Although there is periodical communication, and caution messages are given when necessary, training of users with regard to manners, such as that offered by Z company has not been carried out. The level of manners depends on nationality.

SRQ3: What do car sharing users think of the manners of people who car share?

Unless user manners exist, users cannot use the vehicles comfortably. Manners are indispensable for maintaining a car sharing system. These opinions are common to almost all car sharing users.

MRQ: How are users' manners formed in a car sharing system?

The business model for car sharing is "collaborative work with customers". The business operator informs users of the standard rules, and the users accept them as a matter of good manners. In Japan, many of these rules are tacit knowledge. Meanwhile they are presented as explicit knowledge to users of companies such as Zipcar in the US, which has six of them.

The car sharing business is built on trust that the members will follow the rules and manners. Business operators support users with the ICT service as well as periodical maintenance and management. In order to reduce delays in vehicle returns, and to keep vehicles clean, it is important to improve the manners of users.

Car sharing systems have call centers. However, the functions of call centers are different in some degree between Japan and the US. The greatest difference is that call centers in the U.S. have rules to report the occurrence of any trouble. This point seems to have no difference for users. However, this causes a great difference for business operators to manage the service system. If business operators are not informed of troubles, it is difficult for them to identify users who do not follow the rules. Consequently it is difficult to decrease the frequency of risk occurrence and improve the service. If they are informed of all troubles, they can remove users who do not follow the rules to decrease the risk of occurrence of trouble.

We found the difference in the functions of call centers between Japan and the U.S.

through our interviews, although they seem to have no difference for their users. The reporting requirement makes great difference in the quality of car sharing service.

In the car sharing system, business operators and users must collaborate, and members must also collaborate with one another. In order to maintain a high-quality system, the cooperation of members (users) is indispensable.