Customer Satisfaction and Analysis of
Rates and Services Menu Preferences by Electric Power Suppliers in Japan

Background

In evaluating the retail competition of electric utilities, it is essential to examine advantages and disadvantages for customers in a comprehensive way which includes the long-term perspective. A key future issue for electric power suppliers is effectively improving the satisfaction of all customers, while providing rate menus/services which are optimal for individual customers, under conditions of fixed constraints on management resources. In responding to this issue, priorities must be clarified, and the preferences of the customers themselves must be taken into account.

Objectives

The purpose of this study is to focus on domestic customers in various contract categories, confirm their degree of satisfaction and needs with respect to electric power suppliers, and develop an understanding of their degree of interest in, and intent to use, various menus or services relating to electricity rates. It is also intended to clarify the characteristics of preferences for rate menus/services by customers, and examine the best approach to rate menus/services.

Principal Results

In October 2007, a questionnaire survey regarding electric power services was administered to residential and business customers in Japan, and there were 5,559 responses. Analysis based on the survey results yielded the following findings.

1. The total percentage of customers who were either "Satisfied" or "Somewhat satisfied" with electricity rates was 16% for residential customers, 11% for low-voltage, 13% for high-voltage, and 19% for extra-high-voltage customers. Factors thought to underlie customer selection of these menus/services for electric rates include: "Lower electricity rates," "Less fluctuation in rates," and "Added value" in areas such as energy conservation and safety diagnosis. When these weights were measured for each customer, using the paired comparison method, the top priority was "Lower electricity rates." For residential customers, this was followed by "Less fluctuation in rates," "Matches lifestyle pattern," and "Added value"; and for business customers, it was followed by "Environmental benefit due to reduced CO_2 emissions," "Less fluctuation in rates," "Matches work pattern," and "Added value" (Fig. 1).

2. The relationship between customers' degree of interest in, and intent to use, various rate menus/services was analyzed, including new options which at present have not yet been provided. The results showed that, for all customers, "Rates not dependent on fluctuations in fuel prices," "Discount based on long-term contract," and "Rates based on increasing metering rates" were all specified as items with high priority. Furthermore, it was found that options such as "Point conversion service" for airline frequent flyer miles and credit cards, and "Discount due to a gas package contract" were useful for residential customers, and options such as "Providing information/advice on energy conservation etc." and "Rates where nuclear power generation can be selected for lower CO_2 emissions" were useful for business customers (Fig. 2).

3. Customer preferences for rate menus/services can be classified based on the degree of interest in them. For example, seven characteristics can be identified in the case of residential customers: (1) "Compatibility with lifestyle pattern," (2) "Added value" with potential for provision of information etc., (3) "Compatibility with high volume consumption" where rates become cheaper to the degree that large amounts of power are consumed, (4) "Long-term stability," (5) "Environmental benefit," (6) "Ability to achieve a short-term lower price," and (7) "Energy conservation." Seven characteristics can also be identified for extra-high-voltage customers: (1) "Compatibility with work pattern," (2) "Compatibility with high operating rates," (3) "Ability to reduce contract costs," (4) "Added value," (5) "Flat rates/Stability," (6) "Long-term stability," and (7) "Ability to achieve a short-term lower price." A significant relationship is evident between these characteristics and customer intent to use, and for customers overall, the directionality of the ideal rate menus/services desired by groups having similar intentions, such as the "Indifferent group" and the "Innovative active group" have been indicated in a preference structure map (Fig. 3).

Future Development

We shall evaluate new rate menus/services taking into account not only needs on the customer side, but also factors such as costs incurred on the supplier side. We shall also conduct empirical analysis of preferences for energy equipment and other issues, based on survey data obtained in this research.

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Reference
T. Ariu and H. Goto, 2008, "Customer Satisfaction and Preference Analysis of Rates and Services Menu by Electric Power Suppliers in Japan", CRIEPI Report Y07013 (in Japanese)
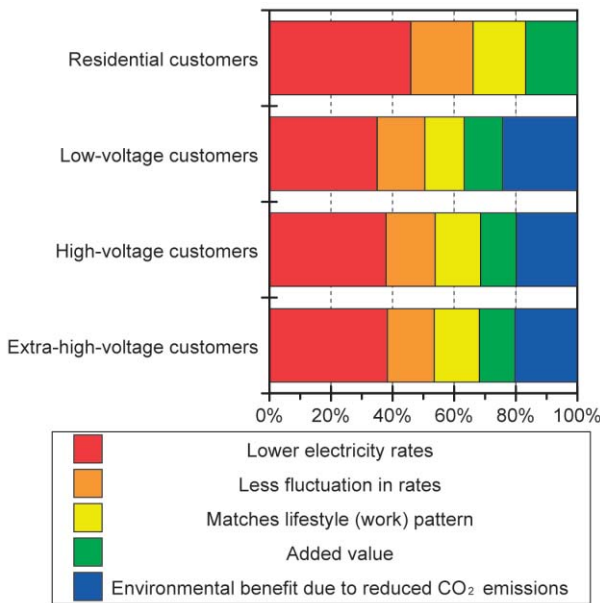
(Note) In preference factors for residential customers, environmental benefit is included in "Added value."

**Fig.1** Preference factors for rate menus/services, by customer type
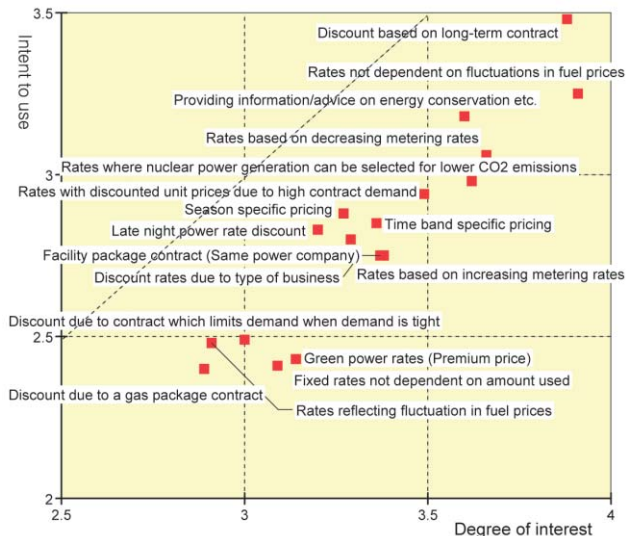
(Note) -Points for degree of interest were: 5 points for "Extremely interested," 4 points for "Interested," 3 points for "Neither," 2 points for "Not very interested," and 1 point for "Completely uninterested." Similarly, points for intent to use were 5 points for "Already using/Would like to use immediately," 4 points for "Would like to use within 5 years," 3 points for "Will consider within 5 years," 2 points for "Will not consider within 5 years," and 1 point for "Completely unnecessary." The graph was created by calculating average values for each.
-Partial analysis results for high-voltage customers.

Fig.2 Degree of interest and intent to use rate menus/services
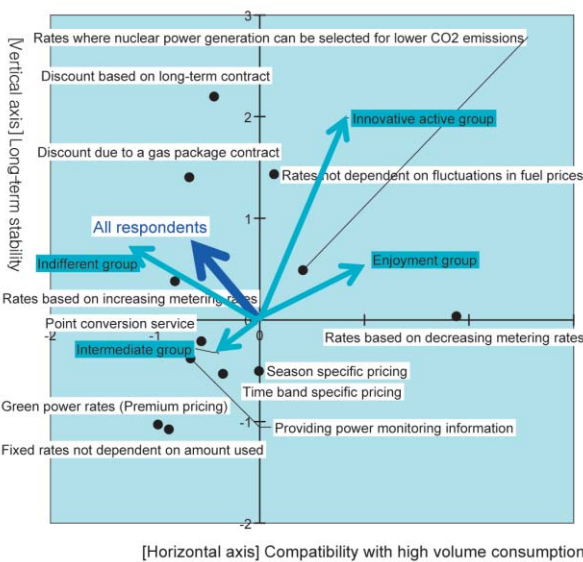
(1) Residential customers
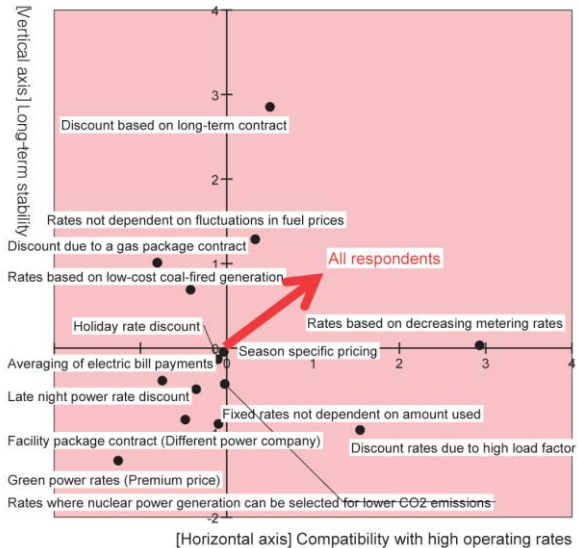
(2) Extra-high-voltage customers

(Notes) -Of the 7 characteristics identified for each customer contract category, two examples are indicated―"Long-term stability" and "Compatibility with high volume consumption" for residential customers, and "Long-term stability" and "Compatibility with high operating rates" for extra-high-voltage customers.
-For residential customer, directionality is indicated for "All respondents," as well as for groups based on intent to use, i.e. "Indifferent group," "Innovative active group," and "Intermediate group."

Fig.3 Preference structure map for rate menus/services