

PROPOSAL AND EXECUTION OF IMAGINARY AHP — MICHINOEKI AS OBJECTS —

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Summary: *In this study, "Imaginary AHP" is proposed as a new way of using AHP. Imaginary AHP evaluates a combination of hypothetical criteria and existing criteria. In this study, hypothetical "service functions" for michinoeki are proposed and evaluated together with the functions that michinoeki have presently. In the results, the test subjects assigned the hypothetical "service functions" a value equal to that of the currently existing "information functions." The advantages of this study are the proposal and execution of imaginary AHP.*

1. INTRODUCTION

This study focuses on the user's "comfort level." The functions of a *michinoeki* are analyzed in terms of "comfort" which the user feels. Facilities that are considered desirable for users are proposed; these "imaginary" functions for the *michinoeki* are combined with existing functions and evaluated using imaginary AHP.

2. MICHINOEKI

Japanese motorways are equipped with rest facilities called *michinoeki*. *Michinoeki* have the following functions: Parking lots, rest areas, toilets, souvenir shops, and various kinds of relevant information, such as the features of the surrounding region.

3. CRITERIA AND THE HIERARCHY

3.1 Criteria

Existing criteria and proposed criteria were chosen through brainstorming, and were combined by the KJ method. An outline of the procedures: Date of experiment: October 20th, 1999. Location of experiment: Hokkaigakuen Univ. Subjects: 8 people from the general population (7 men, 1 woman)

From the combined set of criteria, the following twelve items were chosen:

① rest functions, ② information functions, ③ regional identity (distinctiveness), ④ sightseeing functions, ⑤ toilets, ⑥ stores and restaurants, ⑦ parking lots, ⑧ regional information, ⑨ traffic information, ⑩ weather information, ⑪ the sense of place, ⑫ the feeling of "homelike" familiarity

3.2 Proposed criteria for *michinoeki*.

The proposed "imaginary" criteria, produced by brainstorming, are:

I. New service functions: The hypothetical service functions proposed in this study. II. Car maintenance services: Specifically, service stations; III. Medical services: Remote consultation with a physician via the Internet; IV. Financial services: Specifically, an Automatic Teller Machine (ATM).

3.3 A hierarchy

A hierarchy was constructed from the existing criteria in 3.1 and the proposed criteria in 3.2. Fig 1 shows the resulting hierarchy.

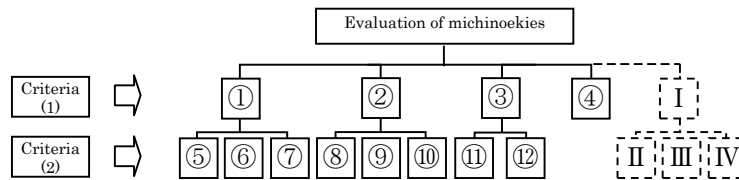


Fig.1 A hierarchy

4. A INVESTIGATION OUTLINE

The questionnaire asked for an evaluation of the different functions of *michinoeki*. An outline of the procedures: Dates of experiment: November 22nd, 1999 ~ December 6th, 1999. Location of experiment: Hokkaigakuen Univ. Subjects: 18 people from the general population (16 men, 2 women)

5. EVALUATION OF MICHINOEKIES

5.1 Imaginary AHP

Imaginary AHP is defined as a method for evaluating imaginary criteria in conjunction with existing criteria. In this study, an evaluation including both kinds of criteria was performed. The following are the procedures and advantages of this method.

<Procedures of imaginary AHP>

1. A concrete description, in this case an altered photograph, is provided so that all subjects have an equal understanding of the imaginary criteria
2. The imaginary and existing criteria are evaluated together using an AHP technique.

<Advantages of imaginary AHP>

1. It is possible to confirm if a proposed function is valuable to the subjects and meets their needs.
2. The importance of hypothetical criteria can be demonstrated by comparing them with existing criteria

5.2 Analysis and consideration

Table 1 shows the weights of the various criteria.

Table 1 Weights of the criteria

Criteria (1)	①			②			③		④	I		
Weight	0.441			0.176			0.119		0.092	0.172		
Criteria (1)	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	/	II	III	IV
Weight	0.620	0.184	0.196	0.273	0.480	0.247	0.635	0.365		0.468	0.136	0.369

From Table 1 above, the weight of the new service functions (I) is 0.172; the weight of the information functions (②) is 0.176, the equivalent value. In other words, the perceived usefulness of the new service functions is equivalent to that of the information function(②). Therefore, it is reasonable to implement the new service functions (I) at *michinoeki*.

6. CONCLUSION

The following are the results of this study.

- ① Imaginary AHP was proposed.
- ② The usefulness of the new service functions was proven.