Efficient Methods for Managerial Segmentation of Service Offerings to Work Commuters

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While the U.S. Department of Transportation and Caltrans have set strategic goals for increasing public transit ridership, both agencies also recognize that these goals have

Applications of multivariate methodology for market segmentation of work commuters and the design of service offerings for segments can serve the goals of diverse transit districts.

been difficult to achieve. Part of this difficulty is that, on the one hand, riders and potential riders have diverse needs in public transport services. On the other hand, designers and managers of public transport service offerings are limited, by cost and regulatory constraints, in the variations they can offer. This project reports an application of market segmentation in the design of service offerings for work commuters in a high-technology corridor of Santa Clara County, California. Multivariate methodology is used to define the importance of attributes in service offerings for differing segments of the commuter sample.

Study Methods

The principal objective has been to efficiently identify segments of work commuters and their demographic discriminators. A set of attributes in terms of which service offerings could be defined was derived from background studies and focus groups composed of work commuters in the county. Adaptive choice conjoint analysis was then used to derive the importance weights of these attributes in available service offerings from a sample of work commuters. Next, a two-stage clustering procedure was used to explore the grouping of individuals' subsets into homogeneous sub-groups of the sample. Finally, the research used recursive partitioning to investigate non-linear combinations of demographic differences that discriminate clusters.

Findings

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Centroids of a Three-Cluster Solution in K-Means Clustering[1]

Cluster	1 Cost/uncertainty	2 Cost predominate	3 Time predominant	F sig
Cost	18.950	32.149	18.981	70.758
Comfort	9.579	6.321	7.431	5.680
Uncertainty in travel time	18.878	7.961	10.112	64.843
Total travel time	16.858	19.736	23.204	7.181
Wait time	14.942	12.792	34.043	128.608
n	148	97	39	

1. (bootstrap 1000 samples, α = .05) Because the clusters have been chosen to maximize the differences among cases in different clusters, this the F tests cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Policy Recommendations

- Market segmentation can be a methodologically efficient procedure to disaggregate complex markets and differentiate service offerings across segments under cost and regulatory restrictions
- Available multivariate methodology can facilitate segmentation and identification of segment discriminators
- Tutorials and software are available for the application of multivariate methodology and support for their implementation

The results of this application cannot be readily generalized because of the non-representative sample, the sample size, and the selectiveness of its high-tech location. However, the results do indicate a basic implementation of the proposed methodology and its interpretation.

About the Authors

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To Learn More

For more details about the study, download the full report at *transweb.sjsu.edu/project/1232.html*