Retail attribute sensitivity

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3. "Retail Attribute Sensivity" [1]

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In studies of shopping behaviour firstly socio-economic variables were taken to explain retail store choice.
Rich & Jain (1968) investigated social class and life cycle as explainatory variables for shopping behaviour. Later studies were extended with socio-economic product risk (Prased, 1975), personality related variables (Dash, Schiffman & Berenson, 1976) and personal interest (Bellenger, Robertson & Hirschman, 1976-1977) and media usage (Bearden, Teel & Durand, 1978). In this line of research the sensitivity of consumers for retail attributes such as price, quantity, assortment and locational convenience, is not included as a predictor for shopping behaviour.
In store image research the retail attributes are usually included as descriptive variables. In a review of 26 empirical and theoretical studies on the importance of store attributes in retail store selection, Lindquist (1974-1975) observed that the four marketing mix elements, price, quality, assortment and locational convenience were mentioned most often. Each of these attributes were included in at least 35% of these studies. Lindquist suggests that this relative frequency of mention is a ,,valuable indicator" of the importance of these attributes. In a review of 12 studies on the importance of retail store attributes Arnold, Ma & Tigert (1978) performed a comparitive analysis on attribute importance for supermarkets. For 7 studies on daily shopping the response to the question ,,All things considered, what is the single most relevant reason you shop at (name supermarket) for most of your food shopping?", was coded into nine categories. Five reasons, covering the four attributes: price, assortment, locational convenience and quality (general and for meat specifically) were considered by the respondents (total N. of 7000) as most important. For these 7 studies an average of 75% considered one of these attributes as most important. In these studies the importance of the attributes is deduced from questions about the single most important reason for retail store choice. (In a study of Hansen and Deutscher (1977-'78) an importance rating of 41 attributes for retail stores by 485 subjects was assessed). In a study of James, Durand & Dreves (1976) a multi attribute model was used to asses the importance of 6 attributes for men's clothing stores: price, assortment, personnel, atmosphere, service and quality. The importance ratings for quality, price and assortment found, were the highest. Locational convenience, however, was not included in this study.
In the studies mentioned here, the implicite conclusion is drawn that attributes wich are rated as being important will determine the actual retail store choice. However, no attempts have been made to validate this, that is to measure the sensitivity of consumers for these attributes and relate them with actual retail store choice. Secondly no attention has been given to the influence of the interaction or combination of these attributes as reasons for choosing specific retail stores.
In this study an attempt is made to measure the sensitivity of housewives for the four most important retail attributes (price, quality, assortment and locational convenience) as explanatory variables for actual retail store choice.

The Study

In a fieldstudy on a sample of 400 housewives in Tilburg, the Netherlands (drawn random within districtstrate) on consumer values and product perception, the measurement of the sensitivity for retail attributes for food-shops was included.
In a second wave, a few months later, (1978) using a selfadministrated questionnaire real store choice and daily shopping behaviour was measured (response 66%). This

[1] This article is based on a joint project of the author with Gert Jan de Nooij, from the department of marketing, Tilburg University

subsample has the same socio-demografic and attribute sensitivity structure as the total sample.

Measuring retail attribute sensitivity

The market place confronts the consumer with a wide variety of shopping alternatives with varying retail attributes.
It is not likely that one alternative is clearly better than another for every retail attribute. The consumer has the trade-off between retail attributes. He has to give up some quantity of one attribute (e.g. accept a higher price) to gain a higher level of another attribute (e.g. quality). Conjoint measurement tries to estimate the individual's (or group) utility values for the attribute levels based on trade-offs. One of the main advantages of the method compaired with other types of analysis is the close relationship of the method with the actual consumer choice process.

In this study food stores were evaluated for price, distance, assortment and quality. The variables were operationalized at three levels (see below).

Table 1 shop attributes

	PRICE	DISTANCE	ASSORTMENT	QUALITY
level 1	weekly purchases at a price of 100 guilders	5 minutes distance	food products	once a week a spoiled food product
level 2	weekly purchases at a price of 110 guilders	15 minutes distance	food products household articles	once a month a spoiled food product
level 3	weekly purchases at a price of 120 guilders	25 minutes distance	food products household articles cosmetics periodicals	once half a year a spoiled food product

This yields a $3 \times 3 \times 3 \times 3$ design in which 81 combinations are involved. The task for the respondent to rank all these combinations will surely exceed his ranking ability. An extensive study how to cope with this problem and the way interactions can be handled has been done by Green (1973, 1974).
A way to overcome this problem and make the task more manageble, is to perform a pair-wise method of data collection. This method is also limited to a maximum number of attributes (Johnson, 1973).
In a 4 (p) attribute study with each attribute measured at 3 levels the respondent has to rank 6 times (p (p-1)/2) 9 combinations, each time 2 attributes at 3 levels. This pair-wise method of data collection can be handled by Kruskal's MONANOVA and the final utility estimates seem to be not significantly different from the utility estimates based on the full concept (ranking all possible combinations) data collection method (Oppedijk v. Veen and Beazly, 1977).
The measurement procedure consists in offering the respondent combinations of product attribute levels like table 1. The respondent has to make a preference ordering off all the combinations (ties, combinations with equal preference are allowed).
Here the trade-off process is illustrated by an example of a trade-off matrix for a car buyer (Johnson, 1974), with only two attributes speed and price at three levels. In this table (1) is the most preferred combination, (9) is the least preferred combination.

		Speed		
		a_1 130 MPH	a_2 100 MPH	a_3 70 MPH
Price	b_1 \$2500	1	2	5
	b_2 \$4000	3	4	7
	b_3 \$6000	6	8	9

Table 2 trade-off matrix

These preference rankings are the input for estimating the utilities of the attribute levels of speed (a_1, a_2, a_3) and price (b_1, b_2, b_3).

The objective of the conjoint measurement algorithm's MONANOVA (Kruskal and Carmone) and UNICON (Roskam and v. Gilst), is to estimate the parameters (utility values) a_i and b_j, in such a way that the rank of z_{ij} is as close as possible to the rank of z_{ij}, which is a monotonic (order preserving) transformation of the observed ranks. The algorithm is an iterative procedure which tries to minimise Kruskal's stress coefficient as a measure of goodness of fit (Kruskal, 65).

$$S = \left[\frac{\sum (z_{ij} - z_{ij})^2}{\sum (z_{ij} - \bar{z})^2} \right]^{1/2}$$

The summation is over all the attribute levels.

Assume the trade-offs in table 2 are based upon an additive model, the estimated utility values of price ($b_1 = 1.292$, $b_2 = 0.185$, $b_3 = 1.477$) and speed ($a_1 = 0.923$, $a_2 = 0.185$, $a_3 = 1.108$) will predict the same preference ranking as is given in table 2. The highest utility ($2.215 = 1.292 + 0.923$) is the most preferred combination, the lowest utility ($-2.585 = 1.477 - 1.108$) is the least preferred combination.

By varying retail mix (attribute) levels and holding other attributes constant the change in attribute utility is taken as indicator for the sensitivity for that particular retail attribute.

The difference between the highest and the lowest attribute utility value is defined as the attribute sensitivity. In our example the price sensitivity for this consumer would be 2.769 ($= b_1 - b_3$). The speed sensitivity 2.031 ($= a_1 - a_3$).

In a 4 attribute experiment each attribute is evaluated 3 times. As final utility estimate the mean of the 3 utility scale values is taken.

The retail attribute sensitivity scores for each respondent were calculated as the difference between the two most extreme utility values. These utility values were obtained by conjoint measurement using MONANOVA (Kruskal & Carmone, 1969). For price, distance and quality the sensitivity has an unique interpretation, while the extremes of the utility scales were always at the extremes of the price, distance and quality scales. However, for the assortment scale some respondents had high utility for a small assortment and low utility for a wide assortment, others had opposite

utility values. So a distinction was made between sensitivities for a small assortment (+ signs) and sensitivities for a wide assortment (+ signs).
The fruitfulness of the retail mix sensitivity concept lays in the effect it will have on behaviour. In this study store choice and shopping behaviour were used in validating the sensitivity concept. For 6 productcategories (bread, vegetables, milk, soft drinks & beer, meat and groceries) store choice, distance of the store and the shopping frequencies were registrated.
The results of the analysis of variance on the sensitivities for different store choices are shown in table 3.
We will explicitly state some expectations while they give an insight in the relevant aspects of the outlet structure for those who are unfamiliar with the typical Dutch retailing situation.

Results: Retailmix sensitivity and shopping behaviour

Price sensitivity

Based on the average price levels of the different outlets we could expect:

1. all productcategories: price sensitive consumers more often do their shoppings at the discounter.
2. vegetables: price sensitive consumers buy their vegetables more often at the open market.
3. milk: price sensitive consumers buy their milk more than others (exc. discountbuyers) at the supermarket [1]).
4. price insensitive consumers will shop more than others at the grocer or van shop.

These expectations are confirmed. Except soft drinks & beer, although the mean scores of the price sensitivity are in the expected direction.

Assortment sensitivity

Expectations based on the wide of the assortment of different types of outlets:

1. vegetables, soft drinks & beer, groceries:
   consumers preferring a small assortment (service sensitive) more often do their shoppings at the grocer and the van shop (small assortment outlets) and in the case of soft drinks and beer also at the milkman.
2. vegetables: consumers sensitive for a small assortment will shop more often at the greengrocer's van.
3. milk: no differences are expected while all the outlets have about the same wide in milk assortment.
4. all productcategories except bread: there's no real difference in the wide of assortment (instead of the depth in assortment) between the supermarket and the discounter, so no differences between these two are expected.

For groceries a significant difference in assortment sensitivity confirms the expectations. For the other productcategories there are tendencies in the expected directions but (due to unequal and small subgroupsizes) not significant.

1) At the time research was done low priced milk was offered at the supermarket and discounter due to special contracts with milk factories

Table 3 Analysis of variance retail sensitivities by store choice

product category	where bought	n	Price	Assortment	Quality	Distance
Bread	total	253	2.064	1.152	2.947	1.954
	supermarket	28	1.918	1.622	3.042	1.901
	discounter	26	2.328	1.050	2.749	2.044
	baker store	137	1.991	1.126	2.988	1.938
	baker door	62	2.181	1.028	2.900	1.978
			F=2.38 α<0.10	F=0.92 n.s.	F=2.29 α<0.10	F=0.32 n.s.
Vege-tables	total	257	2.068	1.159	2.942	1.956
	supermarket	36	1.852	1.604	2.943	2.123
	grocer	5	1.779	1.682	3.118	1.758
	discounter	19	2.388	1.349	2.737	1 939
	market	105	2.149	1.103	2.916	1.918
	gr.grocer	71	1.985	1.009	2.999	1.943
	gr.grocer's van	21	2.099	0.830	3.023	1.952
			F=1.88 α<0.10	F=0.98 n.s.	F=1.14 n.s.	F=0.74 n.s.
Milk	total	255	2.067	1.138	2.956	1.952
	supermarket	85	2.114	1.097	2.971	2.020
	grocer	10	1.586	1.004	3.018	2.442
	discounter	59	2.253	1.399	2.947	1.760
	van shop	22	2.045	1.052	2.872	1.773
	milkman	79	1.947	1.027	2.962	2.010
			F=2.61 α<0.05	F=0.49 n.s.	F=0 22 n.s	F=4 14 α<0.01
Meat	total	256	2.067	1.128	2.948	1.958
	supermarket	52	2.089	1.295	2 883	2.145
	discounter	35	2.414	0.989	2.765	1.787
	butcher	169	2.012	1.106	3.006	1.937
			F=4.39 α<0.01	F=0.40 n.s.	F=4.12 α< 0.01	F=3.93 α<0.025
Soft-drinks & Beer	total	257	2.072	1.148	2.953	1.949
	supermarket	100	2.051	1.135	2.944	1.983
	grocer	12	1.687	0.597	3 057	2.188
	discounter	105	2.187	1.307	2.947	1.828
	van shop	7	1.682	0.132	3 202	1.954
	milkman	11	2.032	0.595	2 932	2.165
	victualer	22	1.982	1.332	2.905	2.137
			F=1 65 n.s.	F=1.25 n.s.	F 0 52 n s	F 2 02 α<0.10
Groce-ries	total	250	2.067	1.129	2 951	1 958
	supermarket	117	2.037	1.191	2 948	2 067
	grocer	15	1.650	0 499	2 973	2.119
	dj counter	124	2.163	1.226	2.940	1.839
			F=2.98 α<0.01	F=3.39 α<0.01	F=0 66 n.s.	F=3 36 α<0 05

Quality sensitivity

Based on the real (perceived) quality differences of the different types of outlet we can expect:

1. bread, vegetables, meat: quality insensitive consumers more often buy at the discounter. Quality sensitive consumers more often buy at small specialized outlets like grocer, van shop and butcher.
2. milk, soft drinks & beer, groceries: there are no or only slight differences in quality for these productcategories among the different types of outlets, so no differences can be expected.

The anovas for the productcategories bread and meat are confirming these expectations. Also for vegetables the tendencies are in the expected direction.

Distance sensitivity

1. In the retail situation there is one type of outlet, shopping at the door, as the baker at the door, the greengrocer's van, the van shop and the milkman, that normally would appeal to distance sensitive consumers. However it is obvious that the validation of the distance sensitivity is influenced by the retailstructure.
   The higher the coverage of outlets the more the consumer has the opportunity to find a nearby store. Differences in real distance will not be large enough to influence behavior.
   Undoubtly this influenced our findings, distance sensitive consumers do not more often buy at the door.

If the research had been conducted in more rural environments the results might have been different.

2. In another way the distance sensitivity concept can be validated; by looking at the distance insensitivity. For milk, meat, soft drinks and beer and groceries discountbuyers are significantly more distance insensitive than the rest of the sample. The coverage of discounters in the Tilburg area is relatively low (8), so people who are price sensitive and buy at the discounter have to trade off price for distance and so they will be more distance insensitive.

Besides the analysis of variance for the different types of outlets, the distance sensitivity concept was tested against the real distance people cover in doing their shoppings. Besides real distance also the number of shops visited (SHOPS) and the number of shopping trips (TRIPS), which is a transformation of SHOPS and the shopping frequencies were tested against distance sensitivity.
Due to the already mentioned dominating influence of the retailstructure on distance sensitivity, Tilburg districts were clustered trying to controle for differences in retail structure.

[2] number of stores in Tilburg

baker stores	81	grocers	57
greengrocers	49	supermarkets	30
butchers	77	discounters	8
victualers	28		

Nearly every Tilburg district is covered by a milkman baker at the door or van shop (SRV)

Twelve district clusters can be distinguished.
The first cluster is characterized by a very low coverage or lack of outlets. Besides the first cluster which is constant over all productcategories, we distinguished for each relevant product category two other clusters. A cluster characterized by only specialized stores for the relevant productcategory under study, and a cluster with a wide variety of all types of relevant outlets.
Within these clusters rank order correlations coefficients (Kendall's tau) were calculated between distance sensitivity and real covered distance, SHOPS and TRIPS From the 19 possible correlations only 4 were significant, which can be explained by the rather crude clustering of districts.
Further controlling for retailstructure leads to within districts analysis which is not possible here because of the small sample sizes.

REMARKS

It seems the sensitivity concept works.
Although we followed for each sensitivity a separate validation procedure it is plausible that the sensitivity concept is not unidimensional.
This could strongly influence real store choice.
For instance people who are wide assortment sensitive and high quality sensitive. Their assortment sensitivity directs them toward supermarkets or discounters, their quality sensitivity directs them toward small service oriented stores. The factual store choice will be determined by the most dominating sensitivity. More of these types of combined sensitivities are found in the cluster analysis in a later section, in which the multidimensionality of the marketing mix sensitivity concept is done more justice, by validating patterns of marketing mix sensitivities.

However we may conclude, that finding significant differences at the unidimensional level (strong) evidence is given for the validity of the concept.

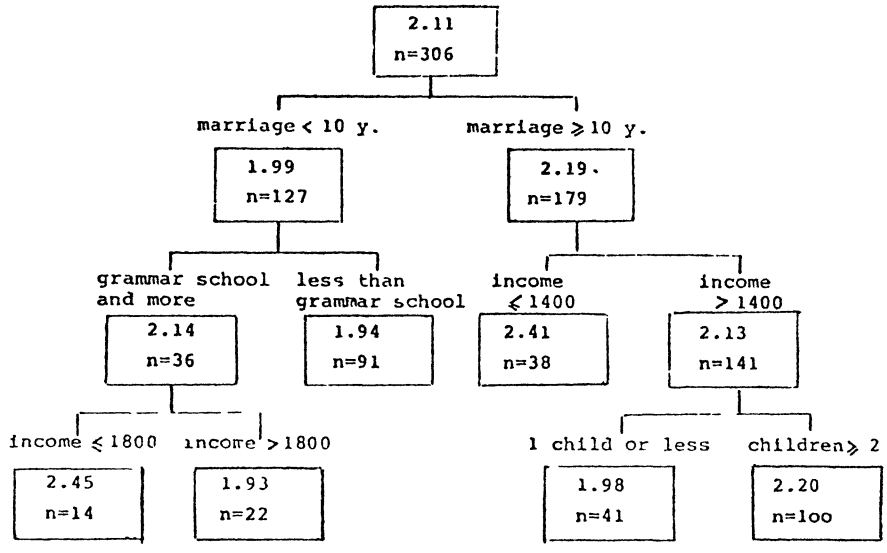
Retail mix sensitivity and socio-demografic characteristics.

For each of the retail mix sensitivities an AID-analysis is performed on socio-economic characteristics.
Stopping-criteria used for the splitting-procedure are:

1. n of group to split minimal 25.
2. Ratio of Between-Total sums of squares 1%.
3. Sums of squares for groups to split must be at least 1% of Total Sums of Squares.

For Price-sensitivity the results of the AID-analysis are presented below.

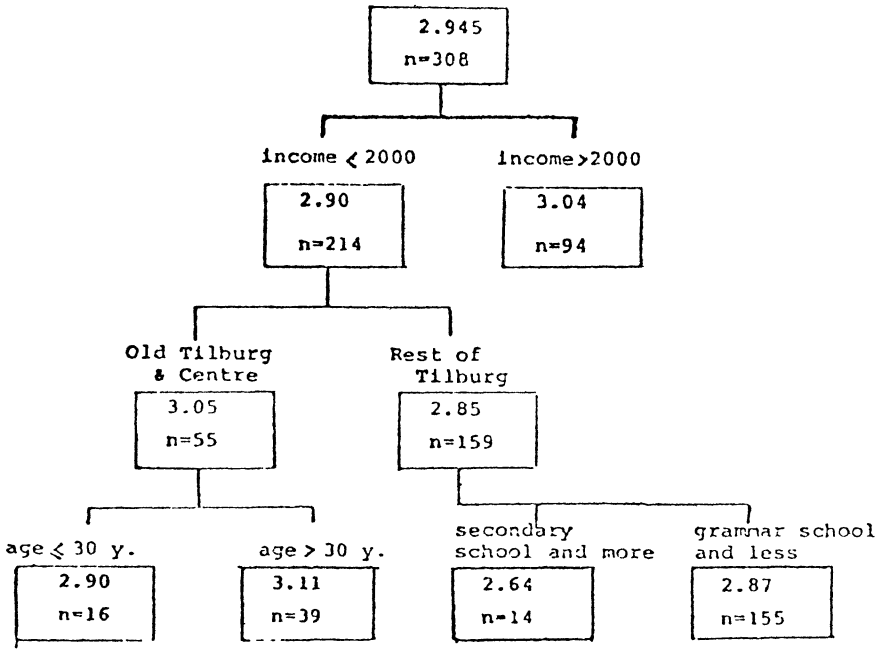
Table 4 AID-Analysis on Price-sensitivity



Very Price sensitive groups formed by the AID—Analysis are
— the lower than *f* 1400,- income groups, married for longer than 10 years
n = 38 Sensitivity = 2 41
— the lower than *f* 1800,- income groups with at least grammarschool education and not married or married for shorter than 10 years
n = 14 Sensitivity = 2 45
— a group not belonging to the lowest income category (>*f* 1400,-) married for longer than 10 years with at least two children
n = 100 Sensitivity = 2 20

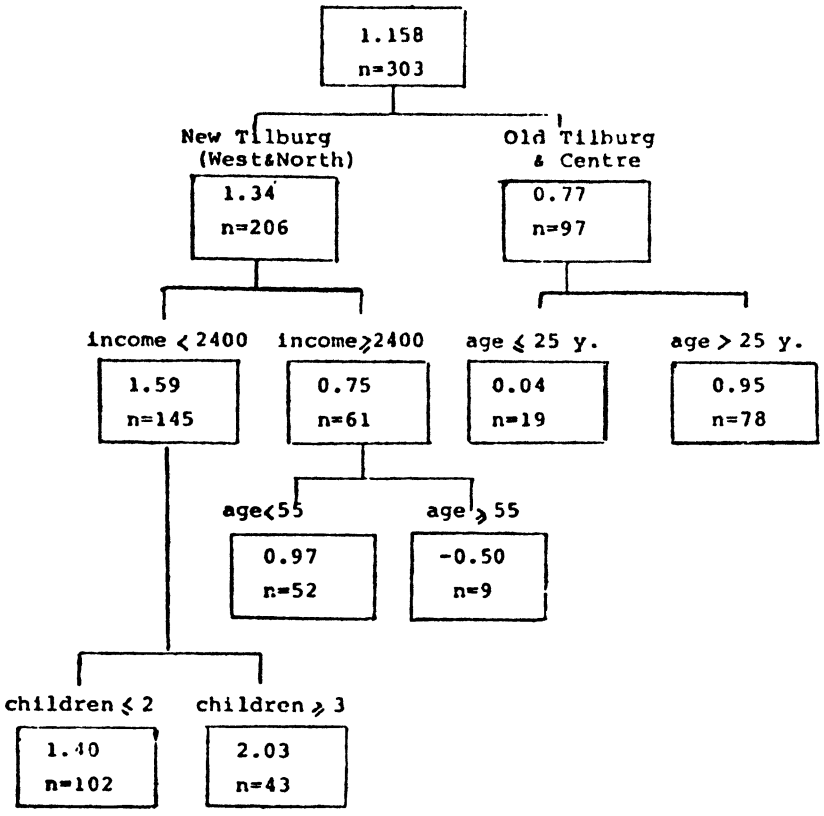
These groups indicate that lower incomes and large-families are more price sensitive while a small subgroup seems to exist with other expenditure-priorities than the foodsector under study

Table 5. AID-Analysis on Quality-sensitivity.



Finding a more quality-sensitive group (n = 94) in the higher income category is what one might expect. Another smaller subgroup (n = 39) with an income lower than *f* 2000,- living in Old Tilburg and older than 30 years can tentatively be characterized as traditionalists sensitive for quality.

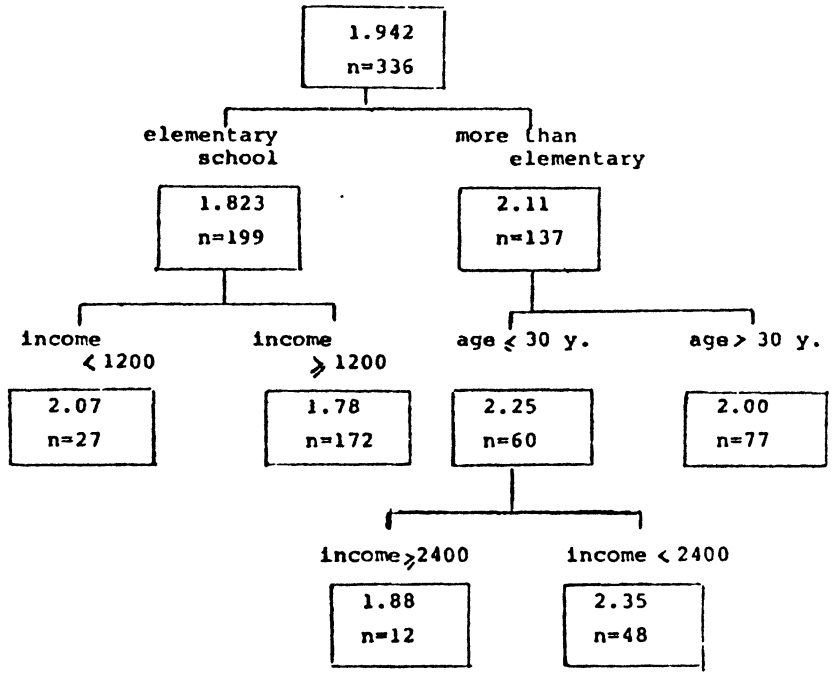
Table 6. AID-Analysis on Assortment sensitivity.



Two service-sensitive groups are formed: those younger than 25 living in Old Tilburg (n = 19) (may be anti-tradionalists) and another subgroup (n = 61) belonging to the highest income category in New Tilburg (garden district) especially when older than 55 years.

A group (n = 43) most sensitive for wide assortment consists of larger families, three or more children not belonging to the highest income category living in New Tilburg.

Table 7. AID-Analysis on Distance sensitivity.



The most distance sensitive group (n = 48) is characterized by an income not belonging to the highest income group, young, with higher than elementary school education. This group probably contains families with younger children. The most distance insensitive group (n = 172) contains women with the lowest education not belonging to the very lowest income group.

Summarising this section on demografic characteristics of groups formed by AID-analysis on the retail mix elements one may conclude that the extreme scoring groups can be intuitively interpretated. As far as this exploratory analysis allows for the groups formed have face-validity. As mentioned earlier the reader has to keep in mind the possible confounding effects of other sensitivities when doing a one by one analysis on each sensitivity seperately.
In the next section therefore patterns of sensitivities are considered.

Retail-Mix sensitivity patterns.

Using clusteranalysis a segmentation based on the sensitivity-scores is realised in this section. On the sensitivity-scores as well as on the utility-values of the two extreme positions of each of the four retail-mix elements McRae's clusteranalysis was performed. In both cases the same seven well-interpretable clusters were found.

On the respondents in the eight, a restgroup cluster, a further clustering was done after eliminating respondents with an extreme but not often occuring pattern. Three further clusters were found. The ,,extreme" respondents then were assigned to the ten final clusters. The ten clusters found are more homogeneous in terms of within and between variance criteria then the ten clusters found in a straight-forward ten clustersolution.
The sensitivity patterns are given in Table 8.

All but the average cluster differ at least on one element from the overall mean sensitivity scores. Half of the clusters have a pattern which is characterized by two significant sensitivity-scores. The very price-sensitive gives up quality for price and the price-intensitive service-oriented group is prepared to pay more for extra service. Three other clusters have a combined sensitivity-pattern: the value for money, the food choice and the nearby quality clusters. Four other clusters can be typefied on one dimension.

Validation of the clusters

For the ten clusters the shoppingbehavior as well as their socio-demografic characteristics were investigated.
In Table 9 the socio-demografic characteristics of the clusters are given. Only those characteristics are indicated within the table on which a cluster differs significantly from the rest of the sample. For simplicity-sake all of the differences between clusters when tested pairwise are not reported.

Table 8. Retail Mix Sensitivity Clusters

Clusters	n =	PRICE	DISTANCE	ASSORTMENT	QUALITY
total	391	2.081	1.953	1.101	2.928
1 Very Price sensitive	39	[3.153]	2.270	1.195	[2.010]
2 Service - oriented	48	2.189	1.956	[-1.567]	3.063
3 Wide Assortment	36	1.599	1.671	[3.085]	2.473
4 Quality Good Choice	67	1.615	1.551	[2.329]	[3.268]
5 Price insensitive	29	[1.370]	2.261	[-2.208]	2.973
Service oriented 6 Nearby Quality	27	1.572	[2.598]	1.416	[3.165]
7 Distance insensitive	37	2.507	[1.244]	1.956	3.142
8 Value for Money	31	[2.617]	1.910	1.094	[3.207]
9 Distance sensitive	22	1.769	[2.995]	1.485	2.513
10 Average	55	2.122	2.074	1.490	3.130

x The significant scores for each cluster are encircled.

Table 9. Socio-demografic characteristics of the clusters.

Cluster	n=	Age	Married	Children	Income	Education
1 Price sensitive	39				low^{x}	
2 Service	48	<25 >45^{xxx}				wife higher^{xx}
3 Assortment	36			more older^{xx}		
4 Good Choice	67					wife lower^{xx}
5 Price insensitive Service	29	<25 >45^{xxx}	not^{xx}			husband higher^{xx} wife higher^{xx}
6 Nearby Quality	27	25-35^{xxx}	short^{xx}	young^{xx}		
7 Distance insensitive	37				low^{xx}	wife lower^{xx}
8 Value for Money	31					wife higher^{xx}
9 Distance sensitive	22			young^{x}		
10 Average	55					

- differences tested against the rest sign. levels x $\alpha < 0.10$
xx $\alpha < 0.05$
xxx $\alpha < 0.01$

The price-sensitive and the distance-insensitive clusters contain indicatively lower income families.
The service-oriented clusters (2) and (5) contain either young or older women with a higher educational level. The women in the distance sensitive clusters (6) and (9) have younger children, while the wide assortment cluster (3) contains larger families with older children.
Comparing these results with the sociodemografic groups formed by the AID-analysis then the findings can be concluded to be similar.
Taken the rather small sizes of the clusters into account the overall pattern of differences seems to indicate the content validity of the clusters.

Shopping behavior of the clusters.

In table 10 two kinds of shopping characteristics are given for each cluster: characteristics based on each productfield seperately and general characteristics based on the total of all six productfields.
Among the general characteristics the number of products bought in three kinds of shopping: discounters, supermarkets and service-shops are given.
Two other characteristics were computed over all productfields: the number of shopping-trips a housewife makes during a week and being customer at some well-known large discounters as Torro, Edah and Famila. For the six productfields seperately the shops are given where a cluster buys these products more or less often than others. Again only the significant differences between a cluster with the rest of the clusters are reported.

Table 10. Shopping Characteristics of the clusters.

Cluster N=	Discounts	Service-shops	Super-markets	Special shops	Trips	Bread	Vegetables	Meat	Milk	Drinks	Groceries
1 Price sensitive 39	more products^{xx}	less^{xxx}		TORRO EDAH^{xxx}	less^{x}	Disc.^{xxx}	Open market x(x)	Disc.$^{x(xx)}$	Disc.$^{(xx)}$		
2 Service 48			less^{x}			Baker^{x}				Victualer$^{(x)}$	
3 Assortment 36				FAMILA^{xx}			Superm.$^{x(-x)}$			Victualer$^{(x)}$	
4 Good Choice 67								Butcher^{x}			
5 Price insensitive Sevice 29	less^{xx}	more^{x}					Greengrocer$^{(x)}$	Butcher^{x}	Milkman$^{(xx)}$	Milkman^{xx}	Grocer^{xxx}
6 Nearby Quality 27	less$^{(x)1}$									Milkman$^{x(xx)}$	
7 Distance insensitive 37			less products^{xx}				less^{xxx} Superm.				Disc.^{x}
8 Value for Money 31		less^{xxx}						Superm.^{x}			
9 Distance sensitive 22	less$^{(x)1}$	less^{xx}	more^{xx}		less^{xx} less shops^{xxx}	Door$^{x(x)}$	Superm.^{x}	Superm.^{xx}			Superm.^{x}
10 Average 55											

- Differences are tested by taking a cluster against the rest
1. both distance sensitive clusters taken together

x $\alpha < 0.10$
xx $\alpha < 0.05$

— From the price-sensitive cluster the same percentage of people visits discount-stores (32%) as for the total sample. However those from this cluster who visit discount-stores buy significantly more products there. They visit less service-shops and go more to TORRO and Edah, known to be the cheapest discounters in town. They make less shopping-trips and buy the different products more often at discounters than others. Vegetables are bought at the open-market where according to the advertising-slogan "your guilder is worth one-fifthy". The differences with the rest of the sample even increases when only respondents are considered from those districts where a free-choice between the different outlets within the own neighbourhood is possible. Then the differences in travelling-time for the different kinds of shops is strongly reduced. The changes in significance of differences is indicated in Table 10 by the stars within brackets. For example: the difference between the price-sensitive cluster and the rest in buying meat at a discounter is for the total group only significant at the 10 percent level. Taken only the respondents into account within those districts where all three kind of outlets are available this difference becomes significant at a 1 percent level. In general, as can be seen in Table 10, is the effect of taking the retail-structure into account, that the differences of clusters are more accentuated.

— Cluster 2, the service-sensitive group, buys less at supermarkets but not less at discounters. This may be explained by the fact that most discounters have separate service-selling-points for vegetables and meat.
— For Cluster 5 the service-sensitiveness score is even higher than for cluster 2 and respondents from this clusters do buy more often at service-shops. This is significant for five out of the six productfields. Again some of the differences become more clearly by taking the retail structure into account.

A further remark on the results from Table 10 can be given.
The distance-sensitive group buys more in supermarkets, while the distance-insensitive group buys less there. This may indicate that buying at the supermarket is in general the easiest, quickest way to do the shoppings.
All findings from Table 10 leads to the conclusion that the clusters do differ in their shoppingbehavior in directions one would expect.

Discussion

The relationships found between retail attribute sensitivity and shopping behaviour suggest the usefullness of the sensitivity concept for retail studies. The operationalisation of sensitivity by offering trade-off matrices is not a too difficult task for the respondent as the response of 99% (N = 396) on these questions illustrates. In our opinion it will, however, be an improvement for the predictive power of the sensitivity concept to split the assortment sensitivity more explicite than done in this study, into a wide-assortment sensitivity and a depth-assortment sensitivity. Also a larger sample will be needed in order to be able to take the retailstructure into account.
Then it will be possible to do within district analysis which will increase the predictive power of the sensitivity concept as well as between district analysis in order to form a better understanding of the influence of different forms of retailstructures, especially in rural districts.
Extending the study with variables as perceived risk and shopimages will provide more detailled information on behavioural mechanisms involved in foodshopping behaviour.

The resemblance of the conjoint measurement procedure in assessing the retail attribute sensitivities with the actual trade-offs made by consumers may prove to be a usefull tool in forming insights into the motivations involved in shopping behaviour. Further research into the psychological make-up of consumers with different sensitivity patterns will provide more information about the behavioural mechanisms of shopping behaviour.
The similarity of the retail attributes with retail mix elements will be an advantage in using the information about the sensitivity of consumers for retail attributes for practical applications in retail marketing.

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