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MULTIDIMENSIONAL MODELS FOR THE ANALYSIS OF CONSUMERS' PERCEPTIONS AND PREFERENCES WITH RESPECT TO AGRICULTURAL AND FOOD PRODUCTS*

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This paper deals with models and measurement procedures, recently developed in the field of consumer research, that can help to obtain useful information for the marketing of agricultural and food products.

The models described take a multidimensional approach where the dimensions that are assumed to influence consumers' perceptions and preferences can be physical as well as psychological. The methods described can be used (i) to determine the dimensions (attributes), by which agricultural and food products are judged by consumers (the perceptual dimensions) (ii) to examine how consumers weigh these attributes against one another when determining their preferences between the alternatives.

The approach offers benefits especially in product development, market segmentation and marketing communication.

1. Introduction

A most important characteristic of marketing in general is its "customer-orientation". The decisions with respect to composition of products and product lines, with respect to price, advertising/promotion and distribution (together called: the elements of the marketing mix) are made with "the face towards the market" and taking into account the needs, wants, tastes and preferences of the (potential) consumers.

Also for the successful marketing of agricultural and food products knowing the consumers' perceptions and preferences is an essential requirement. Consumers can choose from a great variety of different products to meet their nutritional needs and it is important to know how these choices are made and how consumer wants and preferences can be met better by devising new products. Also eating habits and tastes are constantly changing because of changes in life style, changes in occupation, consumer education, cultural trends, etc. The suppliers of food products should be well aware of these changes and detect them as early as possible.

This paper deals with measurement and analysis procedures that can be used to study consumer choice behaviour with respect to agricultural and food products. The methods discussed—which for an important part have only

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recently been developed—can be used to determine the major attributes on which food products are judged by consumers and the relationships between these attributes and consumers' preferences.

The models are multidimensional in nature: it is assumed that a consumer judges a food product on a number of attributes or dimensions. These attributes can be physical, e.g. content of proteins or vitamins, but also psychological, e.g. their association with health, status' safety connotations, etc.

The treatment of the multidimensional models is partitioned into two parts. The next section deals with analysis of perception, the subsequent section discusses preference models. The last section of the paper discusses the potential contribution of this approach to decision making in the domain of marketing of agricultural and food products.

2. Analysis of perception

Usually one product has a great number of different attributes (physical as well as psychological ones). However, since the capacity of the human mind is limited, generally only a few dimensions play a significant role in practical decision-making by consumers. For the supplier of a product, it is important to know which these dimensions are and how—in the eyes of the consumers—the product scores on these attributes. These consumer perceptions are based on former information and experience, but are not necessarily in agreement with objective reality. This section describes how the perceptual dimensions of products can be found. The methods discussed have been developed in psychometrics, the majority during the last 15 years.

The model describing consumer perceptions of products is very simple. It is assumed (Coombs, 1964) that products can be represented as points in a multidimensional (psychological) space. The axes of the perceptual space constitute the attributes on which products are judged by consumers. The configuration of points in the multidimensional space, "the perceptual configuration" is, so to speak, a picture of how the consumer sees the various products. Two products that are very close together in the perceptual space are very similar in the eyes of the consumer; two products that are represented by very distant points are looked upon as very different. For example, suppose that dairy products are judged by consumers on two dimensions: fat content and degree of modernity. In this two-dimensional situation the perceptual map of 4 products A, B, C and D might look like Fig. 1.

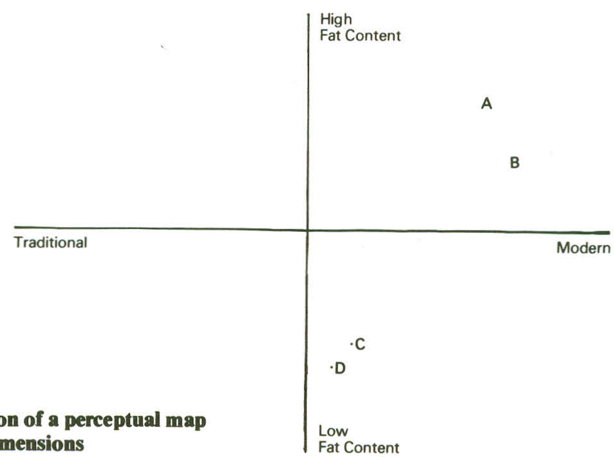

Fig. 1: Illustration of a perceptual map in two dimensions

Products A and B are considered as modern products with a high fat content, C and D are perceived as being less modern and containing less fat. A and B are seen as very similar, the same applies to C and D.

In an analysis of perception one wants to arrive at the perceptual map or "configuration" such as Fig. 1. This means that the co-ordinates of the products, i.e. the projections on the axes have to be found. The data used for this estimation are the perceived similarities between pairs of products. Usually these similarities are organised in a so-called similarity matrix.

Table 1 gives, as an illustration, a part of a similarity matrix based on subjective grouping of 15 vegetables by 50 randomly selected Netherlands housewives.

	endive	asparagus	cauli-flower	mush-room	cucum-ber	sweet pepper	...	...
endive	—							
asparagus	2	—						
cauliflower	3	15	—					
mushroom	0	30	8	—				
cucumber	4	6	4	10	—			
sweet pepper	1	6	1	21	23			
....								
....								

Table 1: Part of a similarity matrix for 15 vegetables

Entries are: numbers of respondents that placed the row vegetables and column vegetables in the same group in a subjective grouping task

These data were collected using the subjective grouping method: the housewives were asked to divide the vegetables into groups in such a way that similar vegetables (in the opinion of the respondent) are placed in the same group and vegetables with a low degree of similarity are assigned to different groups. For example, the figure 30 in cell (4, 2) of Table 1 indicates that 30 of the 50 respondents placed mushroom and asparagus in the same group. It can also be seen that mushroom and asparagus are more similar in the eyes of housewives than mushroom and endive. For other data collection methods than the subjective grouping method, the reader is referred to Green & Carmone (1970).

After having obtained the similarity matrix an iterative computation procedure is applied to place the products in the multidimensional space in such a way that the agreement between this configuration of points in the space and the similarity matrix is as close as possible. This means that for the ultimate map the following should hold: the smaller the similarity between two products the larger the distance and vice versa. Even in a space of low dimensionality this monotonicity requirement leads to a constrained solution in which the positions of the products are well-determined (at least when the number of products is not too small).

Usually it is not possible to reach complete monotonicity. The degree of fit is expressed by the so-called "stress", defined by

$$\text{stress} = S = \frac{\sum_{i<j} (d_{ij} - \hat{d}_{ij})^2}{\sum_{i<j} d_{ij}^2} \qquad (1)$$

Here d_{ij} is the actual distance between products i and j in the space and $\hat{d}_{ij}$ is the same distance, transformed to meet the monotonicity requirement. Of course when the actual distances meet the monotonicity requirement already: $\hat{d}_{ij} = d_{ij}$ for all i and j and then the stress is zero. S serves as a kind of inverse coefficient of determination: it is a value between 0 and 1 and the nearer its value to 0 the better the fit. (The denominator in Eqn(1) only serves as a normalisation constant.)

There are many different computer programs that can perform this type of analysis. For a detailed description of these algoritms, the reader is referred to Green & Rao (1972). Probably the best-known procedure is MDSCAL, developed by Kruskal (1964), see also Kruskal & Carmone (1969). An important feature of these methods is that they are non-metric. Only the rank order of the similarities that constitute the input is important, not the exact values. On the other hand, interval-scaled product co-ordinates in the perceptual space are produced as output quantities.

Using these programs, one obtains a solution in a number of dimensions as prespecified by the user. By studying the stress in relationship to the number of dimensions and the interpretability of additional dimensions, the appropriate number of dimensions, i.e. the number of attributes on which products are judged by consumers, is determined. Once a small stress value has been obtained, it does not make sense to add additional dimensions.

The labelling of the dimensions is done by looking at the placement of the products in the space. Often the interpretation possibilities can be improved by a rotation of the axes, i.e. changing the co-ordinate values of the products by rotating the axes around the origin, so that the new axes have a certain angle with the old axes. Obviously such a rotation does not change the distances between the points and hence is perfectly admissable.

As an illustration of the type of results that can be obtained with these procedures, Fig. 2 depicts the configuration found for the vegetables data referred to before. For these data the stress of the two-dimensional solution was 0·18, in three dimensions the stress was much lower: 0·06 and with four dimensions a further improvement to 0·03 was obtained. Since the fourth dimension was difficult to interpret and caused a relatively small improvement in stress-value, only the three dimensional solution was considered further. In Fig. 2 the positions of the 15 vegetables in the perceptual space are indicated.

The axes have been rotated from the original MDSCAL-solution to improve the interpretability. For this interpretation, use has been made of so-called external variables, the scores of the vegetables on 17 attribute scales provided by the same respondents who delivered the similarity data. Five of these scales refer to nutritional ingredients: iron, Vitamin A, Vitamin C, carbohydrates and proteins. With the 12 other scales, scores were obtained on items like "good taste", "real vegetable", "expensive", etc. The correlation coefficients of these external variables with the perceptual dimensions offered good interpretability. These correlation coefficients, as far as they are greater than 0·6 (abs), are given in Table 2. Dimension 1 is positively associated with: "a vegetable as a side dish", "for modern people", "many ways of use" and negatively with: "carbohydrates", "real vegetable", "for people with heavy work" and "well-known vegetable".

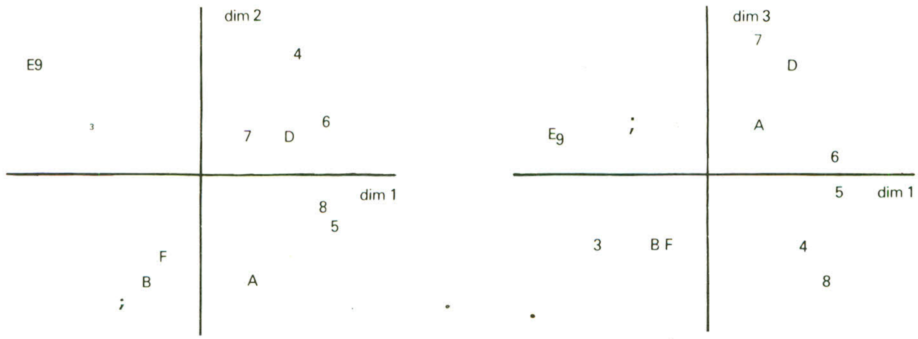

Fig. 2 a: Dimension 1 versus Dimension 2 **Fig. 2 b: Dimension 1 versus Dimension 3**

Fig. 2 Three-dimensional perceptual configuration for 15 vegetables projected in the 1 - 2 and in the 1 - 3 plane, respectively.

Key for identification of symbols:

1	endive	.9	red cabbage
2	asparagus	A	lettuce
3	cauliflower	B	French beans
4	mushroom	C	spinach
5	cucumber	D	onion
6	sweet pepper	E	white cabbage
7	leeks	F	carrots
8	rhubarb	;	coinciding points

We call Dimension 1 "energy association". Unlike other energy producers such as potatoes, vegetables also deliver nutritional ingredients like iron, Vitamin A, and Vitamin C. Dimension 2 of the perceptual space evidently represents this aspect.

We call Dimension 2 the "vitamins/iron association". From the perceived Dimensions 1 and 2, we see that energy value and vitamins/iron content are two very distinct dimensions in the eyes of the consumer.

Dimension 1	*Dimension 2*	*Dimension 3*
"vegetable for a side dish" (r = 0·83)	Vitamin C (r = —0·83)	"Festive meal" (r = —0·68)
"for modern people" (r = 0·70)	Vitamin A (r = —0·70)	"For people with high incomes" (r = —0·62)
"many ways of use" (r = 0·61)	"high nutritional value" (r = —0·67)	"Expensive" (r= —0·61)
Carbohydrates (r = —0·87)	iron (r = —0·64)	
"real vegetable" (r = —0·82)		
"for people that do heavy work" (r = —0·81)		
"well-known vegetable" (r = —0·70)		

Table 2: Correlation coefficient of the perceptual dimensions of Fig. 2 with external variables.

Finally from Table 2 and Fig. 2b, it can be seen that the third dimension has to do with whether or not a vegetable is associated with festivity, high income and expensiveness. Apparently asparagus, French beans and mushrooms are much more associated with these attributes than leeks, onions and spinach for example. Dimension 3 measures whether a vegetable is seen as just a plain vegetable or whether it possesses a certain distinction. Therefore this dimension is called: the "distinction" dimension.

Heterogeneity of perception

The approach thus far implicitly assumes that there is only one perceptual map, reflecting the product perceptions by "the consumer". However, different consumers may have different maps of the world and it should be examined if different subgroups of consumers (e.g. old versus young, high education versus low education, consumers from different geographical areas) perceive the product differently. It is possible to look for subgroups of consumers who share the same "point-of-view", (Tucker and Messick, 1963), with respect to the products under study and carry out separate perception analyses for these groups. Alternatively it is possible to use models that explicitly take into account possible differences in perception among respondents. Examples of such models are: INDSCAL, developed by Caroll and Chang (1970) and ALSCAL by Takane, Young and De Leeuw (1977). For further details the reader is referred to the literature.

3. Preference models

When it is established which evaluative criteria are used in the formation of preferences and the positions of the alternative products on these criteria are known (possibly after having carried out an analysis as described in the previous section), the question is: how do consumers weigh the various criteria against each other when determining their overall preference? Usually this trading-off of product attributes against each other is not done explicitly by consumers. But, somehow, to arrive at a choice such a trading-off must take place. Several models have been developed to describe this trading-off process. A major distinction is the difference between compensatory and non-compensatory models. In the first category an unfavourable score on one attribute can be compensated by a high value on another attribute. In a non-compensatory model this is not possible.

A review of various models can be found in Green & Wind (1973, Ch. 2). In this paper the presentation will be restricted to three models, all of the compensatory type: the vector model, the ideal point model and the part-worth model also called the conjoint measurement of trade-off model. These are the models that received much of the attention in recent literature.

The vector model

In the vector model an individual consumer is represented by his preference vector, which indicates the direction of his preference in the multidimensional product space. The intensity of preference for a specific product is determined by the length of the projection of that product on the preference vector. A product with a longer projection is preferred above one with a shorter projection. Fig. 3 illustrates the vector model for the case of 2 dimensions. It can be seen that Consumer 1 prefers high levels of both attributes 1 and 2 (with a somewhat larger weight for Attribute 1). Consumer 2 also prefers high levels of Attribute 2, but for Attribute 1 he prefers low levels to high levels. Consumer 1 prefers Product B, Consumer 2 prefers Product A.

From Fig. 3 it is clear that in the vector model each consumer can have his own preference vector, so this model, like the models that follow, assume heterogeneity among consumers with respect to preferences.

Algebraically the preference score (= projection) or utility of a specific product j, with co-ordinates $x_{j1}, \ldots, x_{jd}$, as assigned by consumer i with preference vector $(v_{i1}, \ldots, v_{id})$ is according to the vector model:

$$U(x_j) = v_{i1} x_{j1} + v_{i2} x_{j2} \ldots + v_{id} x_{jd} \tag{2}$$

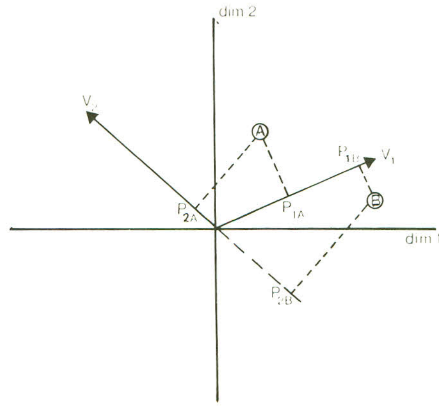

Fig. 3: Illustration of the vector model in the two-dimensional space. The preference vectors of consumers 1 and 2 are v_1 and v_2 respectively. A and B represent alternative products.

So the model implies a utility function that is linear in the product attributes. For this reason the vector model is also called the "linear compensatory model".

An attractive feature of the vector model is its simplicity. However, a disadvantage is the implicit assumption of a monotonic relationship between attribute scores and overall utility. For each attribute the idea 'the more the better' applies. For many types of attributes this may be realistic (e.g. safety, nutritional value), but not for others (e.g. salt content of cheese, sweetness of chocolate, etc.) These latter attributes generally have some optimal level and preferences decrease above as well as below this optimal level. This phenomenon cannot be represented by the vector model, but the ideal point model to follow exactly describes this type of situation.

The ideal point model

In this model a consumer is represented in the multidimensional space by a point instead of a vector. This point is his ideal point: the combination of attributes he likes most. It is assumed that the preference of a person for a specific product increases as the distance from this product to his ideal point decreases. Generally different individuals have different ideal points. Fig. 4 gives an illustration, again in two dimensions. Since for Consumer 1 Product A is nearer to his ideal point than Product B, this consumer prefers A above B. For Consumer 2 the opposite holds. In the ideal point model the utility of product j for consumer i is inversely related to:

$$d_{ji} = \left[\sum_{t=1}^{d} (x_{jt} - y_{it})^2 \right]^{1/2} \tag{3}$$

i.e. the distance to the ideal point of consumer i, of which the co-ordinates are $y_{i1}, \dots y_{id}$.

The ideal point model can be conceived of as a generalisation of the vector model. Imagine the situation where the ideal point is far away from the origin, implying that the desired levels of the attributes are very high. Then it is very unlikely to reach a situation with too much of an attribute. So practically 'the more the better' always holds. Therefore a vector model is a special case of the ideal point model, i.e. an ideal point model with the ideal point in infinity.

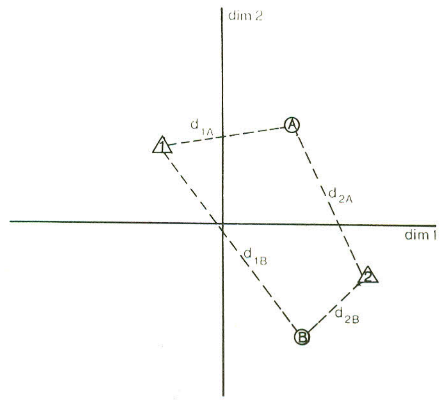

Fig. 4 Illustration of the ideal point model in two dimensional space. ⚠1 and ⚠2 are the ideal points of consumers 1 and 2, respectively. A and B are different products.

Part-worth model

In the part-worth model, also called the conjoint-measurement model, the function describing the effect of varying levels of an attribute on preference (utility) can take all possible forms. This relationship is not restricted to a (monotonic) linear function as in the vector model, neither to a monotonic increasing/decreasing (with the inversion at the ideal point) function as in the ideal point model. In fact for each level of an attribute there is a specific contribution to overall utility. The contributions of the various attributes to overall utility are called: part-worths.

An example may clarify the idea of a part-worth model. Suppose the preference for prepackaged bread is determined by 3 attributes: colour brand and package type. Assume 3 different colours: c_1, c_2 and c_3 (e.g. white, light-wheat, dark-wheat), 2 different brands: b_1 and b_2 and 3 different package types p_1, p_2 and p_3. The utility of a particular bread with color i, brand j and package type k is then:

$$U_{ijk} = f_c(c_i) + f_b(b_j) + f_p(p_k) \tag{4}$$

The part-worth functions in this expression: $f_c(.)$, $f_b(.)$ and $f_p(.)$ may for example be as depicted in Fig. 5. According to this figure light-wheat bread is slightly preferred to white, but dark-wheat bread is much more appreciated than either light-wheat or white bread. The preference for the two brands is about equal, but there are considerable differences with respect to the appreciation of the three package types.

It is important to note that the contributions of the various attributes to overall utility are measured on the same scale (of which origin and unit of measurement are arbitrary). Thus it is possible to see directly the trade-offs consumers make between the attributes. In Fig. 5, for example, it can be seen that the loss of utility when going from package type p_2 to p_1, can be more than compensated by a simultaneous transition from light-wheat to dark-wheat. With such models it is also possible to study the trade-off consumers make between certain differences in product quality and price.

The greater flexibility of the part-worth model as compared with the vector model and the ideal-point model is illustrated in Fig. 6. Here it is demonstrated that increasing the level of a particular attribute in the vector model always has the effect of increasing (or decreasing, depending on the sign of v_t) preference and this increase occurs at a constant rate. In the ideal point model preference first increases and then decreases, while in the part-worth model preference may increase and decrease in any order at varying rates. In the latter model, however, it is necessary to distinguish a number of discrete attribute levels, which because of estimation considerations should be kept limited (e.g. 3 or 4).

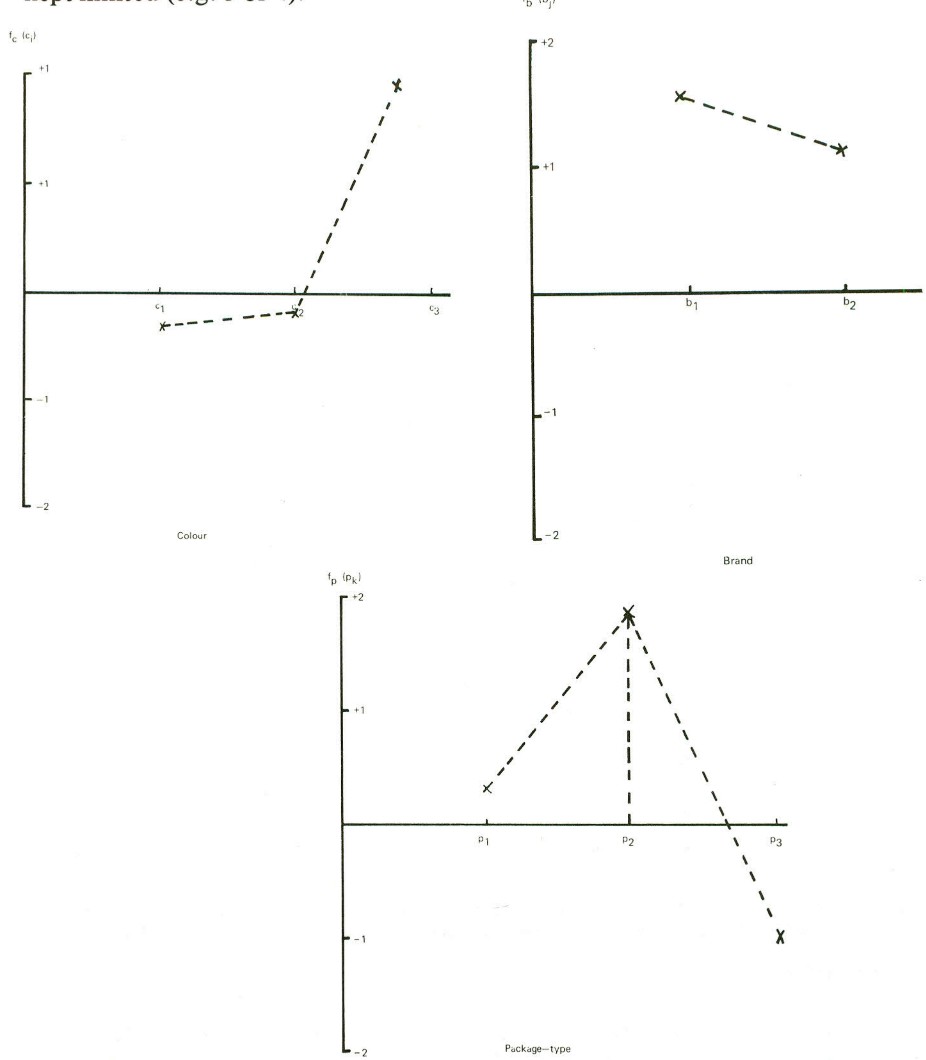

Fig. 5: Example of possible part-worth functions for 3 bread-attributes: colour, brand and package-type

The three models form a hierarchy: the vector model is a special case of the ideal point model and both models are special cases of the part-worth model. In principle one should try to describe a specific preference situation with a model as simple as possible. Some estimation procedures (e.g. PREFMAP, Carrol (1972)) provide statistical tests to check whether for a given data base a specific preference model is appropriate, for example whether a vector model gives a good fit or whether the fit can be improved by moving to the ideal point model. A general consideration is also that the number of parameters to be estimated (and henceforth the data requirements) increase with the complexity of the model.

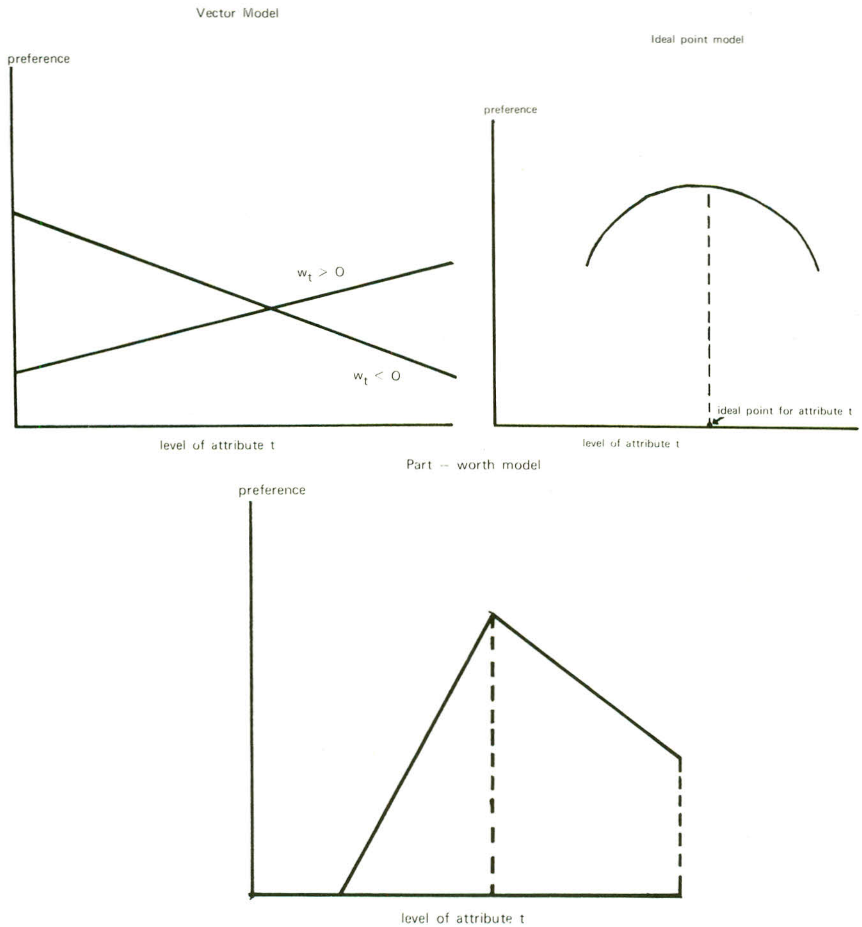

Fig. 6: Preference for different levels of attribute *t* (when holding the other attributes constant) in three different preference models (adapted from Green & Srinivasan (1978)).

Parameter estimation

In the vector model the unknown parameters are the direction cosines of the preference vectors (the attribute weights). The parameters of the ideal point model are the co-ordinates of the ideal points. In the part-worth model the contribution of the respective levels of the various attributes to overall preference, i.e. the part-worth functions, have to be estimated. There are well-documented computer programs available to carry out these computations. Some frequently used procedures are: PREFMAP, Carrol (1972), LINMAP, Srinivasan & Shocker (1973) and MONANOVA, Kruskal (1965). The first two programs can be used for all three models discussed, MONANOVA is a special program for conjoint measurement models. Details about these programs can be found in Green & Rao (1972) and Green & Wind (1973).

The empirical data bases used as input by these programs consist of preference orderings of alternative products by consumers or preference statements with respect to pairs of products. An important point is, that—starting from such ordinal data—interval scaled preference parameters (attribute weights, ideal point co-ordinates, part-worth coefficients) are computed. Usually the analysis is done on an individual basis: the preference parameters of each consumer are estimated separately. It is then interesting to study the distribution of these parameters in the product space.

In the part-worth model the estimation procedure produces the part-worth coefficients, which may be depicted as in Fig. 5. For the vector and the ideal point model, usually the distribution of preference parameters in the product space is given graphically.

As an illustration we present some results, obtained for the vegetable data discussed earlier, as an example. In the data collection process for this study the respondents were asked to give a preference ordering of the 15 vegetables.

Applying the PREFMAP-program, these preference orderings were used to find the ideal points and the preference vectors of the individual respondents. In Fig. 7 the ideal points of 6 individuals have been depicted. For these individuals the ideal point model produced a good fit: the average correlation between the original rank order of preferences and the rank order reproduced by the model is: 0·71. The space is the same as that of Fig. 2; to facilitate the readability the positions of the products that are indicated in Fig. 2 are not indicated again in these figures. As can be seen, the preferences of the respondents are rather different. For example, individual 28 favours high energy vegetables, while individual 4 prefers vegetables with low energy contents. Both respondents favour high vitamin/iron content, while, for example, individual 49's preference on this dimension is is just the opposite. Furthermore, individual 28 prefers vegetables with distinction, while individual 4's ideal vegetable has a low level of distinction. Fig. 8 depicts for the same respondents the estimated preference vectors, obtained in the vector model. The preference directions are very much in agreement with the ideal point locations of Fig. 7. In fact for only one respondent, i.e. individual 14, the fit of the ideal point model was significantly better (p level: 0·06) than the fit of the vector model. So in general going from the vector model to the ideal point model has no great advantages here.

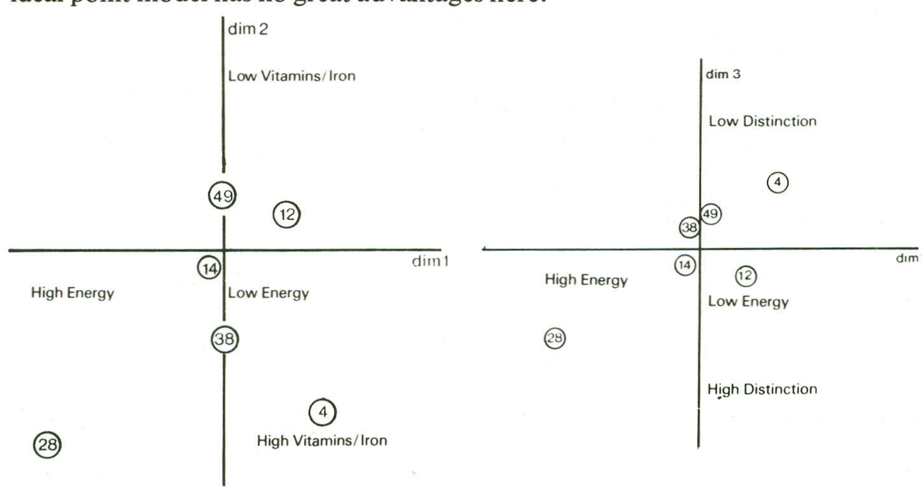

Fig. 7: Positions of ideal points of 6 respondents for the vegetable data. (The numbers refer to the serial numbers of the respondents.)

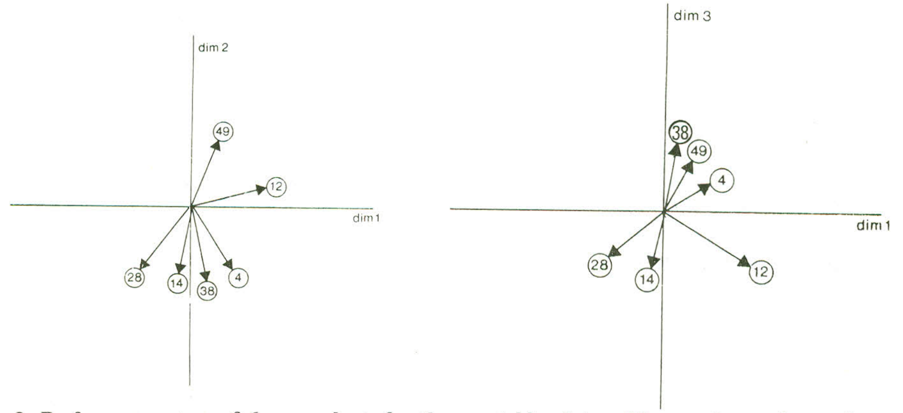

Fig. 8 **Preference vectors of 6 respondents for the vegetables data. (The numbers refer to the serial numbers of the respondents)**

The analysis of the vegetables data from the 50 respondents only constitutes a pilot study here to demonstrate the procedures. No definite conclusions can be drawn with respect to perceptions of the preferences for the various vegetables from this small sample. In a full-scale application, after having obtained the perceptual maps such as Fig. 2 and the distribution of preferences one would use this information for the marketing policy with respect to vegetables.

This point is elaborated upon in the next section.

4. Potential contributions of these methods to the marketing of agricultural and food products

Within the scope of this paper the major developments in perception and preference analysis could only briefly be sketched. For a more thorough study of these methods the reader is referred to Green & Carmone (1970), Green & Wind (1973) and Shepard, Romney and Nerlove (1972).

The importance for the measurement of perception and preference in the area of agricultural and food products should be clear.

Consumers base their purchasing decisions on the way they perceive the products and therefore these perceptions, which can be analysed using the methods described in this paper, constitute important information for marketing policy.

It should be remarked that the measurement of perceptual dimensions need not be restricted to food products. Also the perceptions among consumers of different outlets, various types of supermarkets, butcher shops, bakeries, etc. can be analysed in this way, see for example Jain & Etgar (1976) and Singson (1975).

Preference models provide the suppliers of food products with an analytical framework to think about product development, market segmentation and communication strategy. When the distribution of consumer preferences, together with the positions of the existing products in the multidimensional attribute space is known, this space may be searched for new product opportunities, i.e. positions in the space for which there is considerable consumer preference which is not matched by existing products. New products can then be developed that possess the desired combinations of properties. In this way an attempt could be made to develop products that, more than the existing ones, meet the increasing consumer desire for products that are 'good for health' and are still quite acceptable on other dimensions (taste, smell, etc.). Usually such products appeal only to a subset of consumers (with the preferences in the direction concerned), which implies a certain amount of market segmentation. Urban (1975), Shocker & Srinivasan (1974), Parker and Srinivasan (1976) and Hauser & Urban (1977) discussed and employed this approach for finding new product opportunities. Another way of obtaining a better match between consumer preferences and products is a shift in the position of existing products in the perceptual space. For example by means of advertising it might be possible to change the position of butter on the dimension of perceived fat-content. Lautman *et ai* (1978) demonstrate the use of multidimensional scaling in the development of an advertising campaign to change the perception of a food product with respect to the attribute: "suitability for every day use".

When devising grading systems for agricultural products, information with respect to consumers' perceptions and preferences is desirable. Grading should be carried out with respect to product properties that are important to consumers and have a significant effect on their preferences. Knowledge on this point can also be used to determine which kind of information should be given on package labels of products.

The measurement procedures described in this paper offer a contribution for this area.

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Résumé

MODÈLES MULTIDIMENSIONNELS POUR ANALYSER LES PERCEPTIONS ET PRÉFÉRENCES DES CONSOMMATEURS À L'ÉGARD DES PRODUITS AGRICOLES ET ALIMENTAIRES.

Cet article traite des modèles et des procédés de mesurage récemment mis au point dans le domaine des enquêtes de consommation dans le but de parfaire l'utilité des informations recueillies pour servir à la commercialisation des produits agricoles et alimentaires.

Les modèles décrits se placent sur une perspective multidimensionnelle, c'est-à-dire qu'ils embrassent aussi bien les facteurs physiques que psychologiques qui sont censés influencer les perceptions et choix des consommateurs.

Les méthodes dépeintes peuvent être utilisées (1) pour déterminer les dimensions (attributs) par lesquelles (lesquels) les consommateurs jugent les produits agricoles et alimentaires (dimensions perceptuelles) et (2) pour examiner comment les consommateurs pondèrent ces attributs les uns par rapport aux autres pour opérer leur choix entre les différents produits comparables.

Les méthodes multidimensionnelles présentent des avantages en particulier dans le développement des produits, la segmentation des marchés et la communication aux fins de commercialisation.

Zusammenfassung

MULTIDIMENSIONALE MODELLE ZUR ANALYSE VON KONSUMENTENVORSTELLUNGEN UND PRÄFERENZEN IM HINBLICK AUF LANDWIRTSCHAFTLICHE UND LEBENSMITTELPRODUKTE.

Dieser Artikel beschäftigt sich mit Modellen und Messungsverfahren, die kürzlich auf dem Gebiet der Konsumentenforschung entwickelt worden sind und dazu beitragen können, nützliche Informationen für das Marketing von landwirtschaftlichen und Lebensmittelprodukten zu gewinnen.

Die beschriebenen Modelle sind insofern multidimensional als die Dimensionen, die, wie es angenommen wird, die Vorstellungen und Wünsche der Konsumenten beeinflussen können, sowohl physischer als auch psychologischer Natur sein können. Die untersuchten Methoden können dazu benützt werden, (i) die Dimensionen (Attribute) zu untersuchen, mit denen die Konsumenten landwirtschaftliche und Lebensmittel-

produkte beurteilen (Vorstellungsdimension), und (ii) zu untersuchen, wie die Konsumenten diese Attribute bei der Festlegung ihrer Präferenzen zwischen den Alternativen gegeneinander abwägen.

Dieses Verfahren ist besonders vorteilhaft für die Produktentwicklung, Marktanteilsbestimmung und Marktkommunikation.