The haven of the self-service store – A study of the fruit and vegetable department's influence on customer attitudes towards food chain stores

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THE HAVEN OF THE SELF-SERVICE STORE – A STUDY OF THE FRUIT AND VEGETABLE DEPARTMENT'S INFLUENCE ON CUSTOMER ATTITUDES TOWARDS FOOD CHAIN STORES

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EXECUTIVE SUMMARY

1. As a result of the increased competition between self-service chains, retail managers try to strengthen store identity and customer loyalty to an increasing degree. In this respect a number of measures, as for example service management and direct marketing programmes, have been instigated. Most of these developments have concentrated on the peripheral spheres of the purchase decision situation.

2. More recently retail managers have concentrated their efforts on the departments believed to be most important to customers' overall shopping experience and attitudes towards the store. So far, academic studies of which departments are the most important ones to customer attitudes, and how these attitudes are influenced by department specific factors, have been scarce, however.

3. Unlike most other departments of a self-service chain store, the fruit and vegetable department gives ample opportunity for differentiation and creation of store identity. This has been demonstrated by a few progressive retailers who changed the fruit and vegetable department into a haven* where the self-service customer gets an inspiring break from the stressful ventures in the aisles with pre-packed goods, which look alike in most self-service stores.

4. With an outset in broad range theories of consumer choice and environmental psychology, this paper discusses a number of reasons why the fruit and vegetable department can be one of the keys to chain differentiation and creation of positive customer attitudes to the store. Also the paper describes the results of two empirical studies (a focus group and a survey), which explore customer-perceived quality dimensions of the fruit and vegetable department and the extent to which these dimensions influence customer attitudes towards the department and towards the store in general.

* In English a haven is a place of shelter and safety. In Denmark "haven" means "the garden": A tranquil place with beautiful colours and vegetables where one can relax and get ready for the more stressful activities of modern life.

1. Introduction

After the self-service revolution in the sixties and seventies it became clear to many retail managers that the resulting cost savings and increased consumer convenience was reached only by sacrificing the good ambience and tight customer relations, which characterized the traditional mom-and-pop grocery shops. This caused many customers to become disloyal and opportunistic when choosing where to shop. Other customers felt alienated and returned to the few small grocery shops still in existence.

In recent years, many of the small grocery shops that fell victim to the self-service revolution, have reopened as ”ethnic” green grocers', owned by immigrants. Due to the low prices, and possibly to their inherent ethnic imagery, these stores have won substantial market shares from the retail chains as regards fruit and vegetables. Because fruit and vegetables generate high profits as well as customer traffic (Økonomisk Ugebrev, 1999), retail managers consider the ethnic groceries a nuisance. A few retail chains have tried to copy the ”market place” feeling of the ethnic groceries, but still the fruit and vegetable departments of most Danish self-service chains must be characterized as uninviting to the customer. In the case of discount chains, this can be the result of an attempt to create a low-price/low service image, but the unattractive design is also found in many other chains that regard themselves as service and customer oriented.

To counteract the general disloyalty impact of self-service retailing, the retail-chains have employed a number of measures: The eighties was the decade of service management, double-bagging, and ”have a nice day” greetings at the check-out counter. In the early nineties the efforts to create store identity and customer loyalty was brought even further away from the actual purchase decisions taking place in the store departments. This was done by instigating direct marketing systems and the creation of customer clubs.

In the wake of the friendly check-out staff and direct marketing tide, the most progressive retailers nowadays seek to enforce customer relations and loyalty by focusing on the in-store experience, which are believed to be significant to the overall attitude towards the store (Hoban, 1998; Mitchell, 1997). At the same time the departments and categories which are thought to be less crucial are pruned. So far, academic studies attempting to measure which departments are most significant to the overall attitude have been scarce, however.

For the following reasons we believe that the layout and assortment of the fruits and vegetable department can be a significant contributor to customers' overall attitudes and loyalty towards a chain store:

a) Compared to other product types a larger proportion of the fruit and vegetable assortment is unpacked, leaving the products to be handled and assessed more directly before the purchase.

b) Although, or perhaps because, fruit and vegetables in general are seen as healthy, the risk of pesticide-polluted fruit and vegetables is an important issue to many consumers.

c) Fruit and vegetables are filled with religious, sexual and geographical symbolism, pleasant scents and colours which together constitute a useful foundation for creating a stimulating shopping environment.

d) Compared to other departments, the fruit and vegetable department has a relatively low share of unplanned purchases, which implies that the fruit and vegetable assortment can influence store choice and consequently store loyalty.

Some of these points also hold true for other chain store departments with fresh food products, eg the meat department. Below the points listed are substantiated with arguments based on broad range theories of consumer choice and environmental psychology.

ad a) The assortment of a chain store department can be characterized according to the search, experience and credence attributes of the individual products in the assortment (Andersen, 1994). Search attributes, eg, colour and brand can be evaluated in the store, ie before the purchase. Experience attributes, eg, the taste of a food product, can only be assessed when cooking and eating the product, and credence attributes, eg, product safety, cannot be directly assessed by the individual consumer. Here the assessment has to be based on information from other sources.

The fact that most fruits and vegetables lack packaging, and thus can be handled and assessed before the purchase, means that many of the characteristics of fruit and vegetables, which for other products would be experience attributes, can be considered search attributes. On the other hand, the fact that most fruit and vegetables are unbranded implies the absence of an important search attribute. This absence, however, gives retail managers ample opportunity to express identity and reliability, and hence to differentiate the store, for example by using private labels.

ad b) The fact that most fruit and vegetables are unbranded also implies that the assessment of the credence attributes, eg, safety and production methods, to a large extent depends on consumers' perception of chain policies (an exception to this is ecologically grown fruit and vegetables which carry the Danish government's control label).

Apart from the fact that many fruit and vegetables are packed by the hand of nature, the absence of industrial packaging may cause the products to perish, which strengthens the customers demand for pre-purchase quality inspection. Notwithstanding the fact that, compared to other convenience products, it is easier to assess fruit and vegetables before the purchase, there is still a risk of a poor experience. Thus the perishability of fruit and vegetables enforces the need for store credibility.

Together the constitution of search, experience and credence attributes of the general fruit and vegetable assortment must be expected to contribute to the fruit and vegetable departments' importance to customers' overall attitude towards a chain store. Not only the assortment, however, but also the environment in which it is presented potentially influences the department's influence on the overall attitude towards the store.

ad c) The theoretical foundations of Environmental Psychology (eg Mehrabian & Russell, 1974) basically propose that an individual's perception of the environment depends on its potential for creating arousal, pleasure and dominance. In general the pleasure construct is expected to have a positive influence on the perception of the environment, whereas the relation between environment perception and dominance is believed to be negative. The relation between arousal and environment perception is expected to describe a parable (Foxall, 1997).

The assortment and the environmental variables of fruit and vegetable departments cannot be considered to be independent factors. Thus, the high accessibility of search attributes must be expected to contribute negatively to customers' perception of environmental dominance, ie to strengthen their perception of self-control. Likewise the scents, colours and shapes of fruits and vegetables, the religious and sexual symbolism (eg Dichter, 1964), and the associations between certain fruit and vegetables and seasons of the year, exotic geographic locations, market places and holidays, create an expedient backdrop for stimulating consumer sentiments of pleasure and preferred levels of arousal. Hence, the potential for influencing the imagery of the fruit and vegetable department and the store as such is tremendous.

ad d) A basic prerequisite for any department to influence store choice is that the customer has decided on buying a product from the department before choosing the store. The fact that the fruit and vegetable department, compared to other departments, has a relatively low share of unplanned purchases (Point of Purchasing Institute, 1996) indicates that customers' perception of a fruit and vegetable department's quality and prices can influence their loyalty towards the stores that they frequent.

That the location of a self-service store is a major determinant of store choice has been concluded by many empirical studies (Jørgensen, 1987). Together with the fact that customers only frequent a small number of stores (Olsen, Stenwinkel & Lind, 1998), this probably implies that store choice is influenced less by the attitude towards the whole chain than by the attitude towards the individual store of the chain.

On the other hand, by asking consumers which particular stores and chain names that come to mind, when associating to specific attributes, as for example highest quality merchandise, best service and lowest price, Thelen and Woodside (1997) found that consumers in general associate such attributes to the chain level, whereas associations to particular stores are insignificant.

In general, store managers have little influence on the prices, assortment and the layout of their stores. The fruit and vegetable department is often an exception to this, however (Økonomisk Ugebrev, 1999). If the fruit and vegetable department is as important to overall customer experience as suggested by the discussion above, it may not be sensible to let individual store managers decide about prices and layout of the fruit and vegetable departments.

Apart from the possible economic benefits to the retail chains, it is conceivable that a better presentation of fruit and vegetables may stimulate the consumption of these products. Public health authorities and health organizations find such stimulation desirable. Health organizations' interest in this issue is illustrated by the fact that in 1998 the Danish Foundation for Cancer Research sponsored a design competition among fruit and vegetable departments of Danish self-service chain stores.

The purpose of the study presented in this paper is to explore whether the characteristics and imagery of fruit and vegetable departments influence customer shopping experience as proposed above. The attempt to answer this question is based on a focus group and a survey, specifically aiming at the exploration of the qualities of the fruit and vegetable department as perceived by customers, the extent to which these perceptions influence (a) the attitudes to the fruit and vegetable department, (b) the attitude to the store as such and (c) the consumption of fruit and vegetables.

2. METHOD

The focus group

The focus group consisted of 10 women aged between 18 and 65. All of them bought fruit and vegetables in a self-service food chain at least once a month. Half of the participants in the group buy most of their fruit and vegetable in one store, whereas the other half shops around for fruit and vegetables.

The purpose of the focus group was twofold. Apart from exploring how the characteristics and imagery of the fruit and vegetable department influences customer shopping experience, the results were used as input to the quantitative survey.

As basis for the focus group discussion of fruit and vegetable imagery we used the brand equity framework (Aaker, 1991). The imagery of a store is not fundamentally different from the imagery of a brand, and the brand equity concept has previously been used as the outset for academic studies of consumers' associations to chain stores (eg Thelen & Woodside, 1997).

According to Aaker (1991), the equity of a brand consists of five factors (awareness/recognition, perceived quality, associations, loyalty and other assets, for example possibilities of extending associations to other objects).

The focus group discussion was structured around these factors, and was catalysed by photographs of fruit and vegetable departments in Danish chain stores. Some of these photos showed fruit and vegetable departments, which were prize winners of a design competition sponsored by the Danish Foundation for Cancer Research. Others showed fruit and vegetable departments with more mundane design qualities, representing ”average” Danish standards. The photos showed wrapped as well as “bulk-presented” fruit and vegetables; all chain names were omitted. The basic design of the discussion guide was as follows:

Associations	How do you feel and what do you think of when you find yourself in a fruit and vegetable department? What does being here make you think of? (the individual photos)

Awareness/recognition	Which chains do the stores photographed belong to? Which chains pay most/least attention to their fruit and vegetable department?
Quality	How do you assess the quality of fruit and vegetables? What does it tell you if fruit and vegetables are sold with the chain's own label?
Loyalty	Do people buy more fruit and vegetables if the department is nice? Do you talk to others about the quality of fruit and vegetables in the stores where you shop?
Other assets	What is the quality of other goods in the store? The general service level?

The survey

The study, which was conducted in February 1999, was part of a large CATI survey with 525 randomly selected chain-store customers (at least one visit per week) between the age of 18 and 65. Apart from focus group input, the questionnaire used in the survey consisted of items used in previous studies of customer attitudes towards retail chains (Sirohi et. al., 1998; Woodside & Trappey, 1992).

Each respondent was asked 32 questions about the chain stores in which s(he) shopped most frequently. A set of 25 items concerned specific quality criteria in the fruit and vegetable department. Three questions related to the respondent's assessments of the relative quality of three departments with fresh food in the store in which they shopped most frequently. The remaining four questions measured the attitudes to the fruit and vegetable department and to the store, the self-reported consumption of fruit and vegetable and the assessment of whether a neat design of the fruit and vegetable department can increase fruit and vegetable consumption.

Preferably multi-item measures for the overall measures ought to have been implemented, but because the study was part of a larger survey, the design had to be reduced.

3. Results

The focus group

Regarding the associations to the fruit and vegetable department of the chain store, the group generally agreed that they felt better in the fruit and vegetable departments of certain chain stores (not discount chains) than in other departments of these stores. The reasons mentioned related to the products themselves as well as the design of the department.

The photos of the prize-winning fruit and vegetable departments triggered associations such as *"it reminds me of a Mediterranean market"*, *"it is like* *walking in a garden or a park", "takes a lot of effort to arrange – a high service level", "it looks like a picnic basket", "it makes you want to cook", "but the mirrors are too pretentious"*. The photos of "average" fruit and vegetable departments resulted in associations such as *"ugly and without effort", "too much packaging", "you can only get basic fruit and vegetables", "probably cheap", "it's – you know – a little bit like Eastern Europe or Africa, when I look at it"*.

As regards the question of awareness and recognition it was remarkable that the group was able to pinpoint almost all the chains represented in the photos (the chain names were omitted). Thus all in all the group had a good knowledge of how the fruit and vegetable departments in different chains are designed.

One important aspect in the discussion of quality perception, was that packaging obstructed the evaluation of the freshness of the products: *"You can neither smell nor feel the quality"*. The group agreed that only the exclusive chains would benefit from private labels for fruit and vegetables. In the case of discount chains, all group members disapproved of a private label strategy.

The respondents generally agreed that they talked with their friends and relatives about the quality of fruit and vegetables and how this related to specific stores. There was also agreement as to whether a nice layout of the department could stimulate consumption, but it was stressed that this was only true if the design improvements were not followed by price increases.

Regarding the influence on the attitude towards the quality of other products in the store and the general service level, the group agreed that the stores with the prize-winning fruit and vegetables had better products in general and showed their customers more respect than the average chain store.

In total, the results of the focus group indicate a substantial difference between customer perception "state of the art" and "average" designs, and thus illustrate that there is plenty of room for improvement in the design of fruit and vegetable departments of Danish food chain stores.

The survey

The 525 respondents were distributed across all supermarket chains on the Danish market. Table 1 shows how many respondents mentioned each of the seven chains belonging to the two major Danish retail conglomerates, which together represent approximately 70% of the market. These were also the chains mentioned by most respondents as the chains they visit most often. The chains are categorized according to whether they are discount (DIS), supermarket (SM) or hypermarket (HM) chains.

Table 1 also shows the extent to which the respondents agree to the question of whether three food departments in the stores they visit most often, are better than similar departments in other stores. As the scale for these questions run from 1 to 5 and as the average regarding the fruit and vegetable department is significantly ($p<0.05$) above 3, most of the respondents regard the fruit and vegetable department in the stores they frequent as better than the similar departments of other stores.

That this is not the case for the two other departments could imply that the fruit and vegetable department is more important to the overall attitude towards the store than the two other departments. The correlations between the overall attitude towards the store and the items concerning the fruit and vegetable department (R^2=0.23), the meat department (R^2=0.26) and the dairy department (R^2=0.11) indicate, however that the meat department is at least as important as the fruit and vegetable department. Because the overall attitude to the store is influenced by many factors, it is not surprising that the correlations reported are modest.

It is impossible to assess to what extent the respondents thought primarily of for example cheese counters or of prepacked dairy products, when assessing the relative quality of the dairy department. Together with the results presented in table 1, the correlations reported above are in accordance with our expectations (see section 1), that the fresh food departments influence the overall attitude to the chain store, and the choice of which store to shop in.

Looking at the individual chains we see that the average relative quality assessments for the fruit and vegetable department in general is lowest for the discount chains (Fakta and Netto). This is probably related to the fact that consumers who frequent these chains most often bought significantly ($p<0.05$) smaller shares of their fruit and vegetables in these chains.

Table 1. Average relative quality assessment of different departments*

	Total	Super Brugsen	Dagli Brugsen	Kvickly	Fakta	Bilka	Netto	Føtex
Category		SM	SM	SM	DIS	HM	DIS	SM
Buy most often in (N=)	525	97	23	35	34	21	111	45
The fruit and vegetable department is better than in other chains	3,7	3,9	4,1	4,3	3,6	3,6	3,3	3,7
The fresh meat department is better than in other chains	3,1	3,1	2,9	3,4	2,5	3,7	2,6	3,7
The dairy department is better								

* agree/disagree on a scale from 0-5.

To study the dimensions of customer evaluations of fruit and vegetable departments, an explorative factor analysis of the 27 items concerning this department was conducted. With the Eigenvalue > 1 criterion five factors were identified. See table 2.

The first factor explaining more than 28% of the variance in the data was labelled ”Assortment and service”. The second factor contributing with another 10.5% of explained variance consisted primarily of four factors related to imagery. The interpretation of the third factor is more troublesome, because it is related to items concerning price as well as department aesthetics. The factor was labelled ”Discount” because to some extent it resembles the image of discount stores. The interpretation of the fourth factor (branding) and the fifth factor (packaging) was straightforward.

Four items had no loadings above 0.5: ”*You can always get organic vegetables in.....*”, ”*The fruit and vegetable department is the place in the store, where I feel most comfortable*”, “*The information on fruit and vegetables is good*”, ”*There are many good offers on fruit and vegetables in...*”.

Table 2 also contains the average agreement score for each of the 27 items. It is remarkable that the items loading on the imagery factor, in comparison to the items loading on the other factors, have significantly ($p<0.05$) lower averages. Thus, the respondents tend to disagree that the fruit and vegetable department in the store they visit most often reminds them of a garden, a Mediterranean market, the change of seasons or nature in general. This illustrates that there is considerable room for improvement regarding the imagery of the department. Whether such an improvement will have consequences for the evaluation of the fruit and vegetable department and for the attitude towards the store, is one of the subjects of the following analysis.

Table 2. Average agreement and factor loadings of items regarding the purchase of fruit and vegetables in the store frequented most often*

Factor		1	2	3	4	5
Label	Average agreement	Assortment & ambience	Imagery	Discount	Brand	Packaging
Accumulated explained variance %		28,6	39,1	44,2	49,1	53,1
The F&V dep. is ”well-arranged”	4,4	69				
The F&V i ... are always fresh	3,8	69				
The staff treats the F&V with care	3,4	72				
You can return low quality F&V	3,9	56				
There’s a good ambience in the F&V dep.	3,4	60				
Easy to compare prices on F&V	3,6	72				
Has all the F&V I need	3,7	65				
It is easy to get personal advice on F&V	3,2	56				
The F&V dep. is attractive	3,8	67				
Plenty of room in the F&V dep.	3,0		53			
F&V dep. looks like a garden	2,1		76			
F&V dep. makes me think of the change of seasons	2,5		76			
F&V dep. makes me think of nature	2,5		79			
F&V dep. reminds me of a Mediterranean market	2,1		54			
F&V is generally to expensive	3,2			71		
Too many people have touched the F&V	3,1			53		
The F&V dep. is too adorned for my taste	3,8			69		
I like F&V with the store’s brand	3,2				66	
I prefer branded F&V	3,0				66	
Packaging makes it hard to assess quality	3,1					74
No excess packaging on F&V	3,0					81

* Only loadings above .5

To study the relations between the evaluative dimensions (the five factors) and the overall measures of attitude and fruit and vegetable consumption, a number of multiple regressions was performed. Table 3 shows the analysis results.

The measure of purchase share was based on a question of whether the respondents bought ”*More than two-thirds, between one-third and two-thirds or less than one-third*”, of their fruit and vegetables in the store they visited most often. The measure of ”tendency to buy more” related to a question of whether the respondents felt that ”*the design of the fruit and vegetable department makes me buy more fruit and vegetables than I would have otherwise*”.

Keeping in mind that the main purpose of the study was to uncover the factors in the fruit and vegetable department that influence customers’ attitudes towards this department, an adjusted R-square of 0.25 as regards the regression on the attitude towards the fruit and vegetable department must be regarded as rather low. One possible explanation for the moderate rate of explained variance is the previously discussed significant differences between the attitudes towards the fruit and vegetable departments of the particular chains.

It is remarkable that the adjusted R-square for the regression on the general attitude to the store is as high as 0.19. Together with the adjusted R-square of 0.10 for the regression on self-reported purchase share, it gives a strong indication of the fruit and vegetable department's importance to the chain-store. As the ”tendency to buy more” question, due to its wording, inherently represents a relation to the design of the fruit and vegetable department, the high adjusted R-square (0.30) of the regression on this question can be interpreted in favour of the internal validity of the study.

In general there are few surprises as to the significant effects of the five factors on the dependent variables. As could be expected the ”Discount factor” influences the consumption-related, but not the attitude-related variables. The most remarkable result, however, is that the image factor has a significant positive influence on both attitude measures and on the ”tendency to consume more”. Thus, although there is no significant influence on the self-reported share of fruit and vegetables bought in the individual store, the results of the study lends ammunition to the argument that food chains can benefit from an increased effort as regards the fruit and vegetable department.

Table 3. Adj. R-squares and significant beta-scores for regression of the five factors on the attitude to the fruit and vegetable department, attitude towards the store and the purchase share of fruit and vegetables

	Attitude towards F&V department	Attitude towards store	Purchase share	Tendency to buy more F&V
Adjusted R Square	0.25	0.19	0.10	0.30
FACTOR				
Assortment & Service	0.45	0.39	0.24	0.25
Imagery	0.13	0.16		0.46
Discount			-0.10	-0.15
Brand	0.09		0.12	
Packaging	0.16	0.11		

4. Discussion

The purpose of the study presented in this paper was to explore whether the characteristics and imagery of the fruit and vegetable department influence customer shopping, ie to elicit customer perceptions of qualities of the fruit and vegetable department and to study the extent to which these perceptions influence the attitudes to the fruit and vegetable department, the attitude to the store as such and the share of fruit and vegetables bought in the food store visited most often. The results of the study indicated that a positive answer must be given to all three questions.

The general results of the study also indicated that assortment and service in the fruit and vegetable department are the most important quality criteria as perceived by the self-service fruit and vegetable customer, but also that the imagery of the department is important, and that there is considerable room for improvement of the imagery and the design of the ”average” Danish fruit and vegetable department.

The room for improvement is not only due to the low standards of the ”average” Danish fruit and vegetable department, but also to the fact that the fruit and vegetable department is one of the places in the self-service store with the highest potential for store differentiation and customer loyalization, this being due to the characteristics of fruit and vegetables, ie lack of branding and packaging, perishability, health relevance and symbolism.

If the fruit and vegetable department is as important to customer experience as indicated by the results of the study presented in this paper, it may not be sensible to let individual store managers decide about the assortment and design of the fruit and vegetable department. Design and layout ought to be a strategic consideration for overall chain management.

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