

# **How the Measurement of Store Choice Behaviour Moderates the Relationship between Distance and Store Choice Behaviour**

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## **Abstract**

The influence of distance on consumer store choice behaviour has been considered in many studies. In that respect, frequency and budget share are frequently used methods of measurement to determine the consumer's store choice behaviour. In this study, we propose that the significance of distance is influenced by the way in which store choice behaviour is conceptualized. A survey among 631 consumers was performed in order to examine the research proposition. Structural equation results suggest that the negative effect of distance on store choice behaviour is larger when store choice behaviour is measured as number of visits to a particular store than when store choice behaviour is measured as the percentage of budget spend at a particular store. Our results indicate that researchers should carefully consider the measurement of store choice behaviour when carrying out empirical research involving the concept of distance.

*Keywords:* Store choice behaviour - distance - service output - structural equation modelling

## **Introduction**

Store location (or distance) is a factor that influences offline store choice greatly. Previous research suggests that that location explains up to 70 percent of the variations in the choice of grocery store (Bell et al., 1998; Litz and Gulasekaran, 2008; Huang et al., 2012; Verhallen and de Nooij, 1982; Arnold et al., 1983, Nevin and Houston, 1983; Hortman et al. 1990; Marjanen, 1997; Levy and Weitz, 2001). However, over the last couple of decades, the importance of explaining consumer store patronage behaviour may have diminished because the perceived obstacles of visiting various stores for comparison-shopping have decreased (e.g., Luceri and Latusi, 2010; Gijbrecchts, Campo, and Nisol, 2008; Eppli, 1988; Iver and Pazgal, 2003). Needless to say, the emergence of the Internet allows consumers to costlessly search many online retailers and buy at the lowest price. In an offline setting, large department stores provide a variety of retail goods necessary for comparison-shopping, thus reducing the costs of visiting independent retailers to obtain special commodities. Consequently, in most Western countries, specialty food stores have faced increasing difficulties in competing with supermarkets that are able to offer not only competitive prices, but also a broad assortment of goods as well as convenient shopping (Hansen, 2003). Thus, even extensive grocery comparison-shopping could involve just one obstacle for the consumer, i.e., the distance to the preferred warehouse or supermarket.

The ‘value-perspective’ proposes that when choosing between grocery stores, consumers may make an overall assessment of the utility of the store based on perceptions of what is received and what is given (Zeithaml, 1988, p. 14). In that respect, consumers allocate time, money, and effort in utility-producing (i.e., value) activities (Baltas, Paraskevas, and Skarmas, 2010; Rabbane et al., 2012). In line herewith, we suggest that the importance of distance will decrease according to how much the consumer feels s/he will achieve, or plans to achieve by visiting a particular store. Hence, a consumer who plans to spend a large percentage of her/his housekeeping budget in a particular store will be less influenced by the distance to the store than a consumer who plans to spend only a small percentage of her/his housekeeping budget at the same store. This is because the relative use of resource units to cover the distance will be less when the consumer takes care of most of her/his shopping needs than when the consumer only takes care of a small portion of her/his shopping needs. A possible

consequence of these reflections is that the *importance of distance* as a factor in explaining consumers' store choice behaviour will probably be influenced by the way in which the actual *measurement* of consumers' store choice behaviour is carried out.

More specifically, if store choice behaviour is measured as an expression of the number of times a consumer visits a particular store (frequency), the negative influence of distance on store choice will presumably be greater than if store choice behaviour is measured as an expression of the percentage of the housekeeping budget (budget share) spent at a particular store. Frequency as well as budget share (e.g., Sloot and Verhoef, 2008; Marjanen, 1997; Darley and Lim, 1999; Hildebrandt, 1988) are frequently used methods of measurement to determine consumers' store choice behaviour. Some researchers (e.g., Babin and Attaway, 2000) have combined frequency and budget share with other elements like 'the usual shopping time in a store' into a 'customer share' measure. However, it is difficult to extract a particular pattern regarding the significance of the method of measurement since distance is usually linked with a number of other influential variables, which in turn differ among the various published research results dealing with distance as an influencing variable on consumer store choice behaviour. The purpose of this paper is thus to examine the following research hypothesis more explicitly:

*Research hypothesis:* The importance of distance in explaining the consumer's store choice behaviour is influenced by the way in which store choice behaviour is measured. The importance of distance will be greater when store choice behaviour is measured as the number of times a consumer visits (frequency) a particular store than when store choice behaviour is measured as the percentage of housekeeping budget spent (budget share) at a particular store.

However, consumers will rarely make a decision based on one piece of information by itself, e.g. information about the distance to the store, rather they will try to collect different pieces of information and determine their behaviour on this basis (e.g., Doods et al., 1991; Grewal et al., 1998; Sloot and Verhoef, 2008). The significance of measuring distance should therefore not be determined by itself, as the significance could relate to other factors, which are regarded as important for the choice of store by

the consumer. As stated by Marjanen (1997), “consumers trade off distance with other store-choice variables” (p. 152). Consequently, a conceptual model which integrates various store choice factors will be developed in the next section. The model will be developed based on a value perspective of the consumer’s store choice behaviour. In the following sections, it will form the basis of an empirical survey of a total of eight large Danish supermarket chains. In the final section of the paper, we will be discussing the results of the survey as well as presenting suggestions for further research.

### **Distance in a Value Perspective**

Consumer’s *perceived value* has been viewed as a strategic and fundamental term for the retail industry (refer to Sweeney and Soutar, 2001; Baltas, Paraskevas, and Skarmeas, 2010). Harnett (1998) believes that retailers capable of offering the consumers ‘great value’ will be stronger in competition with other retailers. Levy (1999) argues that retail customers are ‘value-driven’. Jensen (2001) sees customer value as a “very important concept in marketing strategy” (p. 299). According to Zeithaml (1988), a consumer’s perceived value may be seen as an expression of an “overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given” (p. 14). Thus, in principle, the value emerges based partly on what the consumer perceives s/he *receives*, partly on what the consumer perceives s/he *gives*. Within the field of retailing, what the consumer receives may also be termed the store’s *service output* (Bucklin, 1966; Stern and El-Ansary, 1988; Bucklin et al., 1996). In order to receive the service output, the consumer must, however, accept a use of certain resources, i.e. a cost. The use of resources may, in this connection, be divided into a use of monetary resources and a use of time resources (refer to e.g., Blackwell et al., 2001). However, both resources are limited, which is why the consumer must try to direct her/his use of resources at the store offering the greatest service output per used resource unit in the eyes of the consumer. From the value perspective point of view, a retailer thus achieves a competitive advantage by offering the consumer greater value than the competitors. In this connection, Gale and Klavans (1985) suggest two different strategies in relation to increasing the consumer’s perceived value. One possibility is for

the retailer to try to decrease the perceived price and, at the same time, maintain the currently perceived service output. Another possibility is for the retailer to try to improve the perceived service output and, at the same time, maintain the currently perceived price.

The perhaps most common use of the value term relates to the trade-off between quality and price, which may also be termed the 'value-for-money' perspective (e.g. Rabbanee et al., 2012; Chang and Wildt, 1994; Monroe, 1990; Abott, 1955; Sweeney et al., 1997; Hansen, 2001; Sweeney and Soutar, 2001). According to Abott (1955), price as well as quality need to be considered when a company wishes to enter a market characterized by competition: "How good a bargain anything is depends upon both quality and price; the two elements *compounded together* form the basis for evaluation of winning contestants in the marketplace" (p. 108). The value term thus encourages the retailer to concentrate both on internal efficiency – low costs – and external efficiency, i.e. creating a quality or, in broader terms, a service output that caters for the wishes and needs of the consumers. From the individual consumer's point of view, the use of the value term means that it is possible to compare the different values of shopping opportunities, and thereby also the individual retailers' ability to satisfy the consumer (Reeves and Bednar, 1994; Teas and Agarwal, 2000). This does not deter some consumers from preferring one particular value package, e.g. the combination of high quality and high price, while others may prefer a value package consisting of the combination of poor quality and low price. Furthermore, some consumers will emphasize price over quality, while others, in turn, will emphasize quality more than price (Zeithaml, 1988).

A value term that refers solely to quality and price would, however, be too restricted a term in relation to the service output that the retailers are able to offer and in relation to the use of resources borne by the consumers (Baltas, Paraskevas, and Skarmeas, 2010; Sweeney and Soutar, 2001; Bolton and Drew, 1991). The service output would also include e.g. assortment (Bucklin et al., 1966), special features or after sales services (Porter, 1990). Furthermore, in choosing a particular store, the consumer is not only burdened with a use of monetary resources in relation to her/his actual purchases, but, among other things, s/he is also burdened with a use of time resources for transportation to and from the physical store. As summarized by Vettas (1999),

“consumers make their purchasing decisions after they observe the final ‘delivered’ prices, that is, prices adjusted for quality plus a transportation cost” (p. 1).

### *Conceptual model*

Figure 1 displays the suggested relations between service output, costs and store choice behaviour.

Insert Figure 1 about here

The assessment of the service output is based on the consumers’ own experiences with the three dimensions for each of the retailers. A note about the widespread concept of ‘store image’ versus ‘service output’ seems appropriate here. Store image is a more comprehensive concept than service output. Store image may be seen as an expression of the store’s ‘personality’ (Martineau, 1958). In general, store image rests on a psychological basis, which may be compared to trait-factor theory (e.g., Buss and Poley, 1976; Haugtvedt et al., 1992). Trait-factor theory is based on the idea that you may attribute individual ‘characteristics’ to different ‘people’ (in this connection, different store personalities, brand personalities or similar), which will distinguish them from each other. Store image may (just as brand personality) cover a variety of store perceptions among the consumers concerning concrete matters (e.g. a discount store; Finn and Louviere, 1996) as well as the more abstract matters (e.g. ‘a strong community reputation’; Arnold et al., 1996). Thus the store image term also refers to factors that are not necessarily direct consequences of a visit to the store in question, but which may also be consequences of the store’s social, moral or other societal behaviour. In contrast, the term service output solely refers to factors that are dependant on a visit to the store in question (Jensen, 2001; Sampson, 2010). Despite this difference, the many surveys that use the store image terms as their basis may, nevertheless, provide useful information regarding which factors are perceived as significant for choice of store by the consumers when store choice is seen in a service output context.

The literature identifies a number of different dimensions as being potentially significant for the consumer’s assessment of individual stores. Mazursky and Jacoby (1985) identified several dimensions that, according to the consumer’s perception of the overall image of the store, would affect the choice of store. These dimensions included:

merchandise quality, merchandise pricing, merchandise assortment, convenient location, sales clerk service, service in general, store atmosphere, and pleasantness of shopping. Rabbanee et al. (2012) specify store relationship commitment and perceived value of store as important determinants of store loyalty. In a survey dealing with performance factors in retailing, Hildebrandt (1988) used a total of three dimensions as expressions of store image: quality, atmosphere and price. Bucklin (1966, 1972) specifies service output as comprising the factors, spatial convenience, lot size, waiting or delivery time and product variety. In a survey examining shopping center image and consumer choice behaviour, Finn and Louviere (1996) found that two dimensions, wide selection and low prices, could explain 86% of the variation in choice. In a study of consumer attraction to interurban areas, Bell (1999) found a significant relationship between 'quality and range of products and stores' and 'willingness to patronise a retail area'. In a survey of consumers' criteria of choice in choosing between specialty food stores and supermarkets, Hansen (2003) found that the three most important criteria according to the consumers were: high product quality, freshness of products and assortment. Based on the reviewed results, we will assume that the term, service output, is described satisfactorily using the three dimensions: quality, assortment and atmosphere. The model deals with two types of costs: price and distance. Both cost types should be borne by the consumer within her/his usual resource limits. To pay a price to receive a service output involves the use of the consumer's monetary resources, while the distance to the store may involve a use of monetary as well as time resources.

## **Research Design**

### *Empirical setting*

The empirical setting for this research is the Danish supermarket market (see e.g., Marion, 1998). Various formats constitute the supermarket market in Denmark, namely conventional supermarkets, warehouses, and discount stores. Two large supermarket groups, Dansk Supermarked and Coop Denmark, dominate the Danish supermarket market having a marketshare of 69% (Konkurrence- og Forbrugerstyrelsen, 2011). The corporate retail chain Dansk Supermarked (marketshare 32%) is owned by Dansk Supermarked Ltd. whereas Coop Denmark (marketshare 37%) is a consumer co-op. The



Danish independents hold together a marketshare of 22%. Aldi (a German discount store chain) holds a marketshare of 3%, Lidl (a German discount store chain) holds a marketshare of 2%, whereas Rema 1000 (a Norwegian discount store chain) holds a marketshare of 4%. The following stores owned by Dansk Supermarket Ltd. were included in the study: the discount store chain Netto, the warehouse chain Bilka, and the conventional supermarket chain Føtex. The following stores, owned by Coop Denmark, were also included in the study: the discount store chain Fakta, the warehouse chain Obs, and the conventional supermarket chains Kvickly, and SuperBrugsen. In addition, the discount store chain Aldi was also included in the investigation.

### *Data*

A survey among 631 Danish consumers was performed in order to examine the research proposition. 1500 households were contacted, resulting in a response rate of 42%. The questionnaires were distributed to the respondents by use of the 'drop-off-call-back' method (refer to e.g. Hair et al., 2006). 58 graduate marketing or business students were recruited and trained to serve as data collectors. The training included instructions on how the students were to engage respondents and collect data from them. In order to draw a near balanced proportion of Danish consumers stratified random sampling was used. The students were given instructions as to which area they were to collect data from and were also provided with a signed letter briefly introducing the purpose of the study to the respondents. In addition, students were provided with identity tags. The respondents were approached in their home between 5 p.m. and 8 p.m. If a respondent agreed to participate in the study, the student made an appointment to return for the completed questionnaire (for example one hour later or the next day). The student made sure that the questionnaire had been correctly completed and provided answers to questions, comments, etc. All respondents were promised full confidentiality. When a household consisted of more than one person, the person most often responsible for doing the grocery shopping was chosen as the respondent. For each retail chain, only those respondents who reported that they were familiar with a particular retail chain and that they use it for grocery shopping at least once in a while, were included in the analyses.

### *Measurements*

In measuring quality, store atmosphere and price level we choose to follow the suggestions put forward by Hildebrandt (1988) who found that the applied measures confirm both convergent and discriminant validity. Following Hildebrandt, quality, atmosphere and price level was measured by obtaining the respondents response to the following statements: *Quality*: (1) this [retail store chain] offers good quality grocery products; (2) this [retail store chain] offers fresh grocery products. *Atmosphere*: (3) this [retail store chain] has a good in-store atmosphere; (4) this [retail store chain] has a good staff. *Price level*: (5) this [retail store chain] offers low prices; (6) this [retail store chain] has good special offers. In line with these measurements *assortment* was measured by the statements: (7) this [retail store chain] offers a wide selection of grocery products; and (8) this [retail store chain] has frequently new products. All items were measured by a 7-point Likert scale. *Distance* has been measured in a number of ways in various studies. Often, distance has been measured as the physical distance from a subject's residence to an outlet location (e.g., McCarthy, 1980; Hortman et al., 1990). Others (e.g., Cadwallader, 1975; Marjanen, 1997) have used cognitive distance (perceptual distance) as an indicator of distance in combination with other indicators. Still others have considered travelling time and cost distance as important ways of measuring distance (e.g., Rabbanee et al., 2012; Saviranta, 1976; Marjanen, 1997). In this study we used the following two measures of distance: (9) What is the typical time distance from your private residence to the [retail store chain] you visit most often? The end-points of the 5-point scale were 'less than 5 minutes' and 'more than 45 minutes', respectively. (10) What is the physical distance from your private residence to the [retail store chain] you visit most often? The end-points of the 7-point scale were 'less than 250 metres' and 'more than 10 kilometres', respectively.

## **Results**

### *Model specification*

The model in Figure 1 was translated into a LISREL model consisting of a measurement part (confirmatory factor analysis) and a structural equation part

(simultaneous linear regression) (see Figure 2). The relationships between the variables were estimated by maximum likelihood estimation.

Insert Figure 2 about here

#### *Measurement model results*

The results of the measurement model, including the standardized factor loadings, construct reliabilities, and proportion of extracted variance, are displayed in Table 1.

Insert Table 1 about here

All factor loadings were significant ( $p < .01$ ), which demonstrate that the chosen generic questions for each latent variable reflect a single underlying construct. The reliabilities and variance extracted for each latent variable indicate that the measurement model was reliable and valid. In 44 out of 48 cases construct reliabilities exceed .60 (Bagozzi and Yi, 1988). Variance extracted estimates were all above .40 with the exception of two cases. The reliabilities and variance were computed using indicator standardized loadings and measurement errors (Hair et al., 2006; Shim et al., 2001).

#### *Structural equation models results*

Relationships were estimated for eight retailers, including three conventional supermarkets, two warehouses, and three discount stores (Table 2). For each retailer, two structural equation models were estimated. Model 1 (M1): store choice measured as 'budget share'; Model 2 (M2): store choice measured as 'frequency'. This means that a total of 16 models were estimated. The results of the structural equation modelling revealed that the  $\chi^2$  for all the estimated models had a p-value  $< .01$  indicating that the models fail to fit in an absolute sense. However, several writers (e.g., Hair *et al.*, 2006) recommend that the  $\chi^2$  measure should be complemented with other goodness-of-fit measures. The values of the goodness of fit index (GFI) were all  $\geq .90$ , which indicate a good absolute model fit (Bollen and Long, 1993). The values of the adjusted goodness of fit index (AGFI) were in most cases  $> .90$  and the Bentler and Bonett normed fit index (NFI) showed values  $> .90$ . These values suggest an acceptable improvement of fit over

the null model (Drôge, 1989). In addition, the values of the comparative fit index (CFI) were all  $>.90$  and the values of RMSEA were all  $<.08$ . To conclude, acceptable support is provided for the models as proposed.

Insert Table 2 about here

As can be seen from Table 2 the primary predicting elements of store choice behaviour for conventional supermarkets and warehouses were service output and distance. For discount stores the predicting elements include service output, distance as well as price. Except for three cases (retailer1, M2; retailer6, M2; and retailer8, M2), service output had large direct significant effects on store choice behaviour. This holds true both when store choice behaviour was measured as budget share (M1) and when store choice behaviour was measured as frequency (M2). The results also indicate that our research hypothesis is supported in the study. Although distance showed negative effects on store choice behaviour when measured as budget share (M1), the negative effects on store choice behaviour when measured as frequency (M2) were remarkably larger. We can observe this result for all three categories of retailers, and for all the investigated retail chains. Hence, the results suggest that the significance of distance in explaining consumer store choice behaviour is moderated by the actual measurement of store choice behaviour. When store choice behaviour is measured as 'frequency' the negative effect of distance on store choice behaviour is larger than when store choice behaviour is measured as 'budget share'.

## **Discussion**

The results obtained in this study confirm what has been detected in many studies: distance seems to have a negative effect on consumer store choice behaviour. The implication of the present study is, however, that researchers should carefully consider the measurement of store choice behaviour when carrying out empirical research involving the concept of distance. The results suggest that the observed effect of distance on store choice behaviour will be influenced by the measurement of store choice behaviour. For all the considered retail chains, the negative effect of distance on

store choice behaviour when measured as frequency was larger than the negative effect on store choice behaviour when measured as budget share. Hence, when studying the negative influence of distance on consumer store choice behaviour, a type 1 may very well arise in incidents where consumer store choice behaviour is measured as frequency (i.e., increasing the risk of overestimating the relationship). In a similar vein, a type 2 error may arise in incidents where consumer store choice behaviour is measured as budget share (i.e., increasing the risk of underestimating the relationship).

Our results have also direct implications for retail managers. In determining the 'right location' for a retail store one may argue, that retail managers should seek the location that offers the highest potential return on investment (refer to Marjanen, 1997). In finding such a location, it is essential that the strategic purpose of the new store is considered. If the strategic purpose is to generate traffic and to attract consumers on a frequently basis, the retail manager should be seriously concerned about the distance to the most wanted customers and may thus consider an in-town location (Guy, 1994). Otherwise, if the strategic purpose is to attract consumers conducting extensive grocery shopping, the retail manager may consider locations in out of town areas. However, in determining the right location a number of other aspects need also to be taken into consideration. For example, it is probably more costly for a low quality retailer (e.g. a discount store) than for a high quality retailer (e.g. an up-scale conventional supermarket) to locate near its rivals (Vettas, 1999). A low quality retailer may prefer to move away in competitive space in an effort to reduce price competition. In contrast, a retailer which posses a large quality advantage may seek to enjoy this advantage by moving closer to its rivals (Vettas, 1999). Also, the high quality retailer may wish to provide information to consumers that help them to compare the quality of the products offered by competitive retailers. This may further help consumers to evaluate the offered value and, at the same time, it may urge consumers to put less weight on price when making assessments of value (refer to Lynch and Ariely, 2000). In incidents, where consumers are faced with high uncertainty when making judgements of the quality of the offered products, a retailer's location can be used by consumers as a signal of quality (Richardson et al., 1994; Vettas, 1999). However, a low quality retailer seeking to exploit this opportunity face the risk of disappointing the consumers, which may prevent them from repeat shopping in that particular store.

This research is limited in that it does not consider a wide range of factors, which potentially may affect consumer store choice behaviour. Thus, we do not propose that we have ‘fully explained’ consumer store choice behaviour. At the same time, such an explanation has not been the purpose of the present study. Instead, emphasis has been put on the significance of distance in combination with different measurements of store choice behaviour. In addressing this problem setting, future research may wish to combine other predicting variables of store choice behaviour (e.g., perceived hedonic and utilitarian shopping value, accessibility of the stores, *etc.*) with distance. Also, potentially moderating variables like available modes of transportation, income, age and other socioeconomic factors, and psychological factors as e.g. attitudes and interests may be taken into account.

### **Conclusion**

This study addressed the influence of distance on store choice behaviour when store choice behaviour was measured in different ways. On the basis of a structural equation model involving service output, price and distance it was found that the negative effect of distance on store choice behaviour was remarkably larger when store choice behaviour was measured as ‘frequency’ than when store choice behaviour was measured as ‘budget share’. This result was consistent across all the investigated categories of retailers, i.e., conventional supermarkets, warehouses and discount stores.

Figure 1

Conceptual Model of Store Choice Behaviour

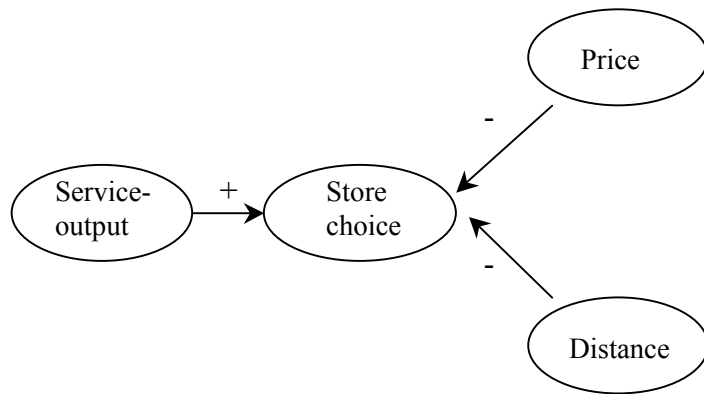
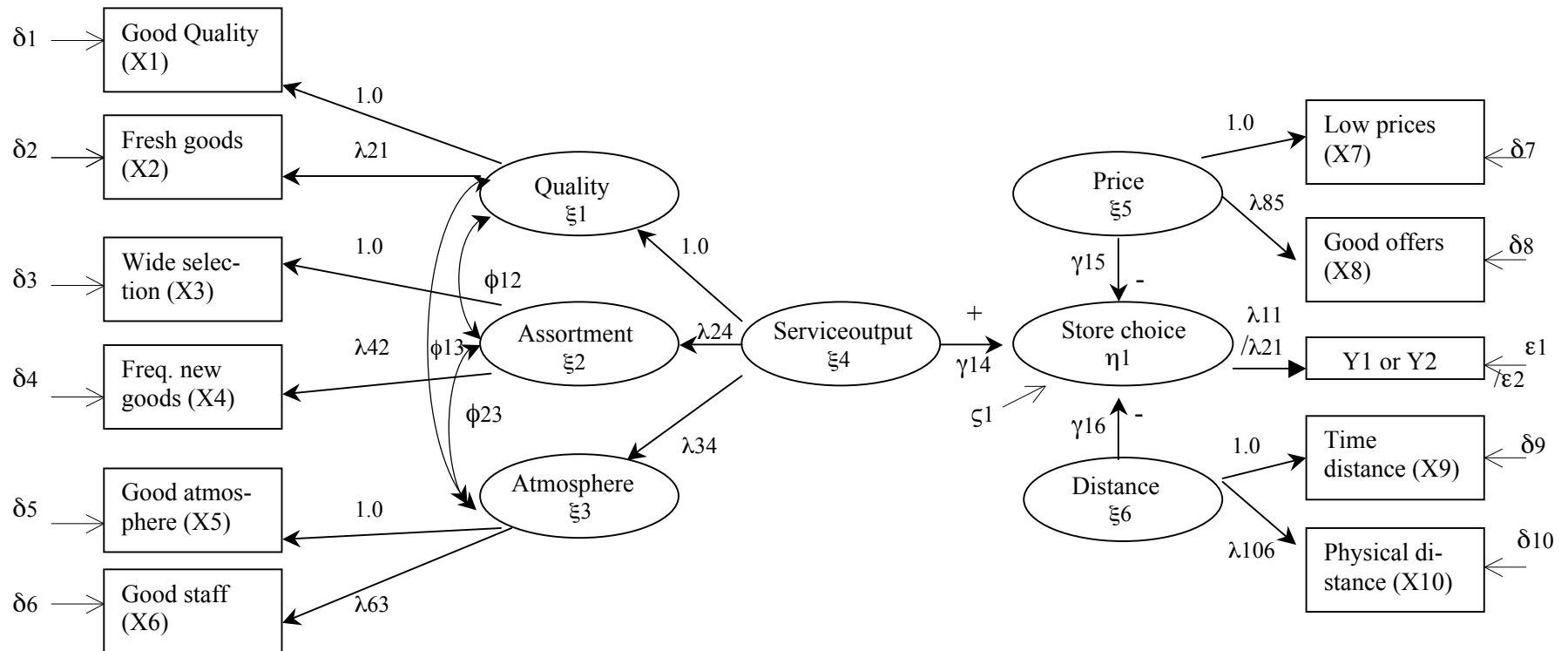


Figure 2  
The full LISREL model



Notes: Y1 applies when store choice is measured as 'budget share' (model 1)  
 Y2 applies when store choice is measured as 'frequency' (model 2).  
 Quality, assortment and atmosphere were allowed to correlate in the model (refer to Hildebrandt, 1988).



TABLE 1  
Confirmatory Factor Analyses Results

Construct/ indicator	Conventional Supermarkets			Warehouses			Discount Stores			Conventional Supermarkets			Warehouses			Discount Stores			Conventional Supermarkets			Warehouses			Discount Stores						
	Standardized Factor Loading									Construct Reliability									Proportion of Extracted Variance												
	R1	R2	R3	R4	R5	R6	R7	R8	R1	R2	R3	R4	R5	R6	R7	R8	R1	R2	R3	R4	R5	R6	R7	R8	R1	R2	R3	R4	R5	R6	R7
ξ1 (Quality)									0.66	0.63	0.78	0.82	0.86	0.73	0.81	0.84	0.49	0.46	0.64	0.69	0.75	0.58	0.67	0.73							
X1	0.70	0.67	0.81	0.78	0.89	0.80	0.77	0.90																							
X2	0.70	0.68	0.79	0.88	0.84	0.72	0.87	0.80																							
ξ2 (Assortment)									0.57	0.51	0.76	0.69	0.81	0.64	0.65	0.78	0.40	0.34	0.61	0.53	0.68	0.48	0.48	0.64							
X3	0.61	0.55	0.73	0.69	0.74	0.63	0.78	0.77																							
X4	0.65	0.62	0.83	0.76	0.90	0.75	0.60	0.83																							
ξ3 (Atmosphere)									0.66	0.70	0.81	0.80	0.79	0.74	0.89	0.79	0.50	0.53	0.68	0.67	0.66	0.59	0.80	0.65							
X5	0.69	0.77	0.83	0.78	0.81	0.78	0.81	0.84																							
X6	0.72	0.69	0.82	0.85	0.81	0.75	0.97	0.77																							
ξ4 (Serviceoutput)									0.69	0.67	0.81	0.80	0.72	0.65	0.85	0.68	0.43	0.41	0.59	0.58	0.46	0.39	0.66	0.42							
ξ1	0.56	0.65	0.69	0.84	0.81	0.67	0.81	0.81																							
ξ2	0.67	0.61	0.82	0.74	0.55	0.57	0.68	0.55																							
ξ3	0.72	0.65	0.79	0.69	0.66	0.62	0.93	0.56																							
ξ5 (Price)									0.85	0.79	0.57	0.74	0.67	0.68	0.89	0.63	0.75	0.66	0.40	0.59	0.51	0.51	0.81	0.46							
X7	0.82	0.78	0.64	0.75	0.68	0.71	0.82	0.65																							
X8	0.91	0.84	0.63	0.79	0.74	0.73	0.97	0.70																							
ξ6 (Distance)									0.65	0.73	0.59	0.70	0.72	0.61	0.79	0.68	0.49	0.57	0.42	0.53	0.56	0.44	0.65	0.51							
X8	0.77	0.72	0.68	0.69	0.72	0.70	0.77	0.71																							
X9	0.62	0.79	0.62	0.77	0.78	0.63	0.84	0.72																							

Notes: R1=SuperBrugsen, R2=Fotex, R3=Kvickly, R4=Bilka, R5=Obs, R6=Netto, R7=Aldi, R8=Fakta.

The measurement of service output results from a second order factor analysis (refer to e.g. Hair *et al.*, 1998) comprising the variables (items): 'quality', 'assortment', and 'atmosphere'.

Store choice is measured by a single item and is therefore not displayed.

All factor loadings were significant on the 1% level.

Table 2  
Estimates for the Proposed Model  
(standardized regression weights)

Relationship	Conventional Supermarkets						Warehouses				Discount Stores					
	Retailer 1		Retailer 2		Retailer 3		Retailer 4		Retailer 5		Retailer 6		Retailer 7		Retailer 8	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
SO-Sbeh. ( $\gamma_{14}$ )	0.44*	0.18	0.58**	0.47**	0.72**	0.48**	0.73**	0.57**	0.47**	0.42**	0.39*	0.28	0.51**	0.45*	0.51**	0.32
P-Sbeh. ( $\gamma_{15}$ )	-0.02	-0.11	-0.19	-0.21	-0.22	-0.11	-0.10	-0.16	0.06	0.03	-0.59*	-0.43	-0.47*	-0.32	-0.43**	-0.13
D-Sbev. ( $\gamma_{16}$ )	-0.22	-0.70**	-0.54**	-0.71**	-0.59**	-0.71**	-0.57**	-0.70**	-0.51*	-0.71**	-0.28	-0.37*	-0.39	-0.51*	-0.43*	-0.68**
<i>n</i>	297		259		167		192		183		357		182		179	
Chi-square statistic (p-value)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
GFI	0.90	0.91	0.92	0.93	0.90	0.92	0.96	0.91	0.94	0.93	0.97	0.92	0.96	0.92	0.94	0.90
Adjusted GFI	0.88	0.87	0.90	0.91	0.87	0.89	0.92	0.89	0.93	0.92	0.94	0.89	0.93	0.93	0.92	0.90
CFI	0.90	0.89	0.90	0.92	0.91	0.92	0.92	0.93	0.91	0.90	0.98	0.90	0.96	0.90	0.91	0.92
NFI	0.94	0.93	0.93	0.94	0.93	0.93	0.91	0.93	0.92	0.92	0.94	0.94	0.93	0.94	0.92	0.93

Retailer1=SuperBrugsen, Retailer2=Føtex, Retailer3=Kvickly, Retailer4=Bilka, Retailer5=Obs, Retailer6=Netto, Retailer7=Aldi, Retailer8=Fakta.

M1 (model 1): Store choice measured as 'budget share'

M2 (model 2): Store choice measured as 'frequency'.

\*\* : Significant on 1% level

\* : Significant on 5% level

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