

Ebizz Øresund

**The Online Grocery Consumer:
Results From Two Scandinavian Surveys**

- Research Report January 2003 -

By

Torben Hansen
Lektor, Ph.D.

Department of Marketing
Copenhagen Business School

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1. Survey design and respondents

The data presented in this report were collected from two online (web-based) surveys of Danish and Swedish consumers using self-administered questionnaires. One sample (n=1222) was collected among Danish consumers in August/September 2002 and one sample (n=1058) was collected among Swedish consumers in September 2002. The questionnaires were distributed to households by the use of an Internet-panel administered by Catinét Research. When a household consisted of more than one person, the respondent was chosen as the household-member most often responsible for carrying out the household's grocery shopping.

Online data collection methods (e-mail or web-based) are attractive because of low costs and fast response rates (Ilieva et al., 2002). However, one may argue that, as some Danish and Swedish people still do not have access to email and the Internet¹, such datacollection techniques may often result in a sample of respondents that is not representative of the desired population². The 'desired population' should, however, be considered in the light of the research problem setting. The purpose of the present research is to investigate consumers' online grocery behavior and to include both online grocery buyers as well as non-online grocery buyers (but with Internet access) in the investigation. In this connection,

¹ By the end of 2001 74% of Danish households had access to the Internet either at work, at home or at an educational institution (www.dst.dk). The combination of various sources (e.g. Nielsen NetRating) suggests that in mid-2002 more than 80% of Swedish households had access to the Internet either at work, at home or at an educational institution.

² In addition, online research may present technical challenges. Message length, bandwidth, and network traffic affect the time it takes to transmit a message across a network. Wealthier, more highly educated, professional, and technically oriented respondents may have faster, more powerful computers and wider bandwidth connections. Even with sufficient bandwidth on the link between a respondent's workstation and his/her Internet service provider heavy network traffic can cause long delays. Online survey transmission times, like other Internet transmission times, vary by season, day of the week, and time of day (cf. Miller, 2001).

several questions are investigated, including: what are the Danish and Swedish consumers general online information seeking and buying behavior? What are, according to the online consumer, the pros and cons of online grocery buying? What are the benefits and problems of the online grocery store? Are consumers' online buying behavior valuedriven? What are the determinants of future online grocery shopping? What distinguish online grocery buyers from non-online grocery buyers? In dealing with this problem setting, and these research questions, we want primarily to investigate present and future *online marketplace* behavior not offline non-marketplace behavior. Thus, by conducting online surveys, we make sure that the chosen households are qualified for the study (i.e. households with access to the Internet either at home or at work/educational institution were included as respondents).

Compared to the statistics on the Danish and Swedish population, elderly people are underrepresented in the data. Further, more females than males participated³ and the educational level was above average among both Danish and Swedish respondents. This skewness was expected due to the chosen method of data collection. Until household access to the Internet is more widespread, there may be good reasons to adjust for demographic differences between online and traditional groups. There are, however, also good reasons not to use case-weighting methods. Hence, it has been suggested that adjusting online results to match mall intercept, phone, or mail results sends the wrong message to the users of online research data (cf. Miller, 2001). As stated by Miller (2001), “we want to predict marketplace behavior, not mall, phone, or mail survey-taking behavior” (p. 29). Several test-statistics were performed to detect whether weighting versus non-weighting of the data would influence e.g. relations between theoretical concepts included in the studies.

³ No doubt, this results from the fact that the household-member most often responsible for doing the grocery shopping was chosen as the respondents. A similar result has been obtained by Hansen et al. (1999).

However, no significant influences were detected. Thus, on the basis of such considerations, non-weighted data form the basis of the results presented in this report.

Profiles of respondents

In the explorative studies (refer to literature analysis presented in the working paper, WP⁴), several demographic variables were identified as being potential influential in determining the likelihood of consumer online grocery buying. Among these are the consumer's gender, age, and educational level. Also household income per year and household grocery budget per month were identified and measured. The general profiles of the respondents included in the surveys are shown in Table 1.

The majority of consumers participating in the surveys are women. This result is rather unsurprising as respondents were chosen as the household-member most often responsible for doing the grocery shopping. A similar result has been obtained in another recent survey of grocery shopping among Danish households (refer to Hansen et al., 1999). Most of the respondents are relatively young people. In the Danish survey, more than 57% of the respondents are under the age of forty, while in the Swedish survey more than 71% of the respondents are under the age of forty. The results displayed in Table 2 show that nearly all respondents (DK=97.8%; S=94.0%) have access to the Internet at home. Also, in both countries a very large part of the respondents have access at work or at an educational institution.

⁴ Refer to the working paper distributed by e-mail in November 2002: Hansen, T. (2002), Forbrugeren og Internettet: En litteraturgennemgang og forslag til yderligere forskning (refer to references section).

Table 1. Main Demographic Characteristics of Respondents

Characteristics	DENMARK		SWEDEN	
	N	%	N	%
Gender				
Male	508	41.6	393	37.1
Female	714	58.4	665	62.9
Age				
25 or below	110	9.0	149	14.1
25-29	207	16.9	248	23.4
30-34	183	15.0	218	20.6
35-39	201	16.4	138	13.0
40-45	224	18.3	109	10.3
46-50	151	12.4	59	5.6
51-55	82	6.7	58	5.5
56-60	42	3.4	53	5.0
61 or above	22	1.8	26	2.5
Educational Level				
Basic School	98	8.0	34	3.2
High school or equivalent	111	9.1	277	26.2
Business Training	258	21.1	46	4.3
Short-term higher education	184	15.1	213	20.1
Middle-term higher education	409	33.5	239	22.6
Long-term higher education	162	13.3	249	23.5
Household Income Per Year				
0-99.000	42	3.4	77	7.3
100.000-199.000	90	7.4	93	8.8
200.000-299.000	152	12.4	211	19.9
300.000-399.000	181	14.8	189	17.9
400.000-499.000	229	18.7	177	16.7
500.000-599.000	217	17.8	149	14.1
600.000-699.000	128	10.5	61	5.8
700.000-799.000	88	7.2	51	4.8
800.000-899.000	42	3.4	22	2.1
900.000 or above	53	4.3	28	2.6
Household Grocery Budget Per Month				
1.000 or below	45	3.7	65	6.1
1.000-1.999	252	20.6	316	29.9
2.000-2.999	251	20.5	298	28.2
3.000-3.999	239	19.6	182	17.2
4.000-4.999	220	18.0	113	10.7
5.000-5.999	118	9.7	56	5.3
6.000-6.999	56	4.6	16	1.5
7.000 or above	41	3.4	12	1.1

An inter-country comparison indicates that in Sweden it is more common to have access to the Internet at other peoples' homes than it is in Denmark. In both countries, an overwhelming part of the respondents has been online for several years and most respondents are online more than two hours per week. However, more heavy Internet users (7 or more online hours per week) are detected in Sweden than in Denmark. Finally, most of the respondents seem to be qualified Internet users (DK=69.9%; S=81.4%). Only a few percent characterize themselves as online beginners. In both countries, approximately half of the respondents characterize themselves as Internet users with moderate expertise.

Table 2. Internet Usage Characteristics of Respondents

Characteristics	DENMARK		SWEDEN	
	N	%	N	%
Internet Access				
At home	1196	97.8	994	94.0
At work or educational institution	989	80.9	940	88.8
At other peoples homes (e.g. friends)	762	62.4	896	84.7
Some other place	311	25.5	352	33.3
Years Since First Online Visit				
Less than 1	51	4.2	2	0.2
1-2	108	8.8	16	1.5
3-4	421	34.5	170	16.1
5-6	364	29.8	352	33.3
More than 6	278	22.7	518	49.0
Number of Online Hours per Week				
Less than 1	101	8.3	36	3.4
1-2	300	24.5	139	13.1
3-6	401	32.8	297	28.1
7-10	184	15.1	227	21.5
More than 10	236	19.3	359	33.9
Internet Competency				
Novice	34	2.8	11	1.0
Basic Expertise	334	27.3	186	17.6
Moderate Expertise	564	46.2	529	50.0
Expert	290	23.7	332	31.4

Profiles of Online Grocery Buyers versus Non-Online Buyers

Table 3. Characteristics of Respondents: A Comparison of Online Grocery Buyers Versus Non-Online Buyers.

	DENMARK		SWEDEN	
	Has bought groceries via the Internet (n=88) %	Has <i>not</i> bought groceries via the Internet (n=1134) %	Has bought groceries via the Internet (n=110) %	Has not bought groceries via the Internet (n=948) %
Gender (DK:b)				
Male	29.5	42.5	37.3	37.1
Female	70.5	57.5	62.7	62.9
Age				
25 or below	5.7	9.3	7.3	14.9
25-29	21.6	16.6	26.4	23.1
30-34	21.6	14.5	23.6	20.3
35-39	17.0	16.4	15.5	12.8
40-45	18.2	18.3	14.5	9.8
46-50	8.0	12.7	4.5	5.7
51-55	6.8	6.7	2.7	5.8
56-60	0.0	3.7	4.5	5.1
61 or above	1.1	1.8	0.9	2.6
Educational Level (DK:a)				
Basic School	2.3	8.5	3.6	3.2
High school or equivalent	4.5	9.4	21.8	26.7
Business Training	13.6	21.7	0.9	4.7
Short-term higher education	15.9	15.0	19.9	20.3
Middle-term higher education	34.1	33.4	23.6	22.5
Long-term higher education	29.5	12.0	30.9	22.7
Household Income Per Year (DK:a)				
0-99.000	0.0	3.7	3.6	7.7
100.000-199.000	3.4	7.7	5.5	9.2
200.000-299.000	6.8	12.9	19.1	20.0
300.000-399.000	20.5	14.4	16.4	18.0
400.000-499.000	9.1	19.5	18.2	16.6
500.000-599.000	20.5	17.5	18.2	13.6
600.000-699.000	21.6	9.6	10.0	5.3
700.000-799.000	6.8	7.2	3.6	5.0
800.000-899.000	4.5	3.4	4.5	1.8
900.000 or above	6.8	4.1	0.9	2.8
Household Grocery Budget Per Month (DK:a; S:b)				
1.000 or below	0.0	4.0	2.7	6.5
1.000-1.999	12.5	21.3	22.7	30.7
2.000-2.999	22.7	20.4	30.9	27.8
3.000-3.999	22.7	19.3	17.3	17.2
4.000-4.999	12.5	18.4	16.4	10.0
5.000-5.999	14.8	9.3	3.6	5.5
6.000-6.999	10.2	4.1	2.7	1.4
7.000 or above	4.5	3.3	3.6	0.8

(a): Chi-square test significant at 0.01 level (DK=Denmark; S=Sweden).

(b): Chi-square test significant at 0.05 level (DK=Denmark; S=Sweden).

Table 3 shows a comparison of online grocery buyers and non-online grocery buyers on main demographic characteristics. In Denmark, females are more inclined than males to engage in online grocery buying. In addition, online grocery buyers are significantly better educated, have higher household incomes, and higher household grocery budgets than non-online grocery buyers. In Sweden, online grocery buyers have a significantly higher household grocery budget than non-online grocery consumers. No other characteristics were significant in distinguishing between the two groups of Swedish respondents.

SPECIAL PROFILES: FURNITURE AND MEDICINE

In Tables 4 and 5 profiles of online furniture and medicine consumers are displayed. The gender characteristics of both Danish and Swedish respondents who had sought online information about furniture or who had bought furniture via the Internet do not differ significantly from the general gender characteristics of respondents (refer to Table 1). Also, with respect to age, educational level, and household income per year, there seems to be correspondence between the general characteristics of respondents and respondents who had either sought online information about furniture or bought furniture via the Internet.

For medicine, both Danish and Swedish respondents who had bought medicine via the Internet tend to be older than the age of respondents in general (refer to Table 1). In addition, when compared to the general profiles of respondents more females than males seem to be attracted to carry out online purchasing of medicine. The statistics displayed in Table 5 suggests that younger people perceive larger obstacles than older people when it comes to actually make an online buying of medicine. Younger people do search for online information about medicine but they resist buying medicine online. The resistance to buy

could, however, also reflect that younger people do not find the kind of medicine offer they want when searching the Internet.

Table 4. Special Profile of Respondents I: Furniture

	DENMARK		SWEDEN	
	Has sought online info. about furni- ture (n=667) %	Has bought furniture via the Internet (n=64) %	Has sought online info. about furni- ture (n=699) %	Has bought furniture via the Internet (n=99) %
Gender				
Male	41.1	45.3	36.6	31.3
Female	58.9	54.7	63.4	68.7
Age				
25 or below	9.6	4.7	13.3	13.1
25-29	17.8	23.4	26.9	19.2
30-34	15.6	23.4	22.2	33.3
35-39	18.0	12.5	12.9	12.1
40-45	17.7	14.1	9.3	9.1
46-50	11.4	7.8	5.2	7.1
51-55	5.7	9.4	4.3	3.0
56-60	3.0	3.1	5.3	3.0
61 or above	1.2	1.6	0.6	0.0
Educational Level				
Basic School	7.2	3.1	2.3	3.0
High school or equivalent	9.1	7.8	26.5	21.2
Business Training	18.3	9.4	4.0	4.0
Short-term higher education	16.3	20.3	21.6	20.2
Middle-term higher education	34.9	32.8	23.2	24.2
Long-term higher education	14.1	26.6	22.5	27.3
Household Income Per Year				
0-99.000	3.0	1.6	6.0	3.0
100.000-199.000	6.0	7.8	8.2	12.1
200.000-299.000	11.5	9.4	19.5	12.1
300.000-399.000	13.3	18.8	18.2	28.3
400.000-499.000	19.0	14.1	16.2	16.2
500.000-599.000	17.7	20.3	14.7	10.1
600.000-699.000	12.0	15.6	7.2	5.1
700.000-799.000	8.2	3.1	4.9	4.0
800.000-899.000	3.9	1.6	2.3	6.1
900.000 or above	5.2	7.8	3.0	3.0

Table 5. Special Profile of Respondents II: Medicine

	DENMARK		SWEDEN	
	Has sought online info. about medi- cine (n=457) %	Has bought medicine via the Internet (n=11) %	Has sought online info. about medi- cine (n=483) %	Has bought medicine via the Internet (n=12) %
Gender				
Male	37.6	27.3	35.4	16.7
Female	62.4	72.2	64.6	83.3
Age				
25 or below	6.8	0.0	9.3	0.0
25-29	13.3	9.1	25.5	8.3
30-34	16.2	9.1	22.8	16.7
35-39	17.9	9.1	14.7	8.3
40-45	19.7	9.1	11.0	16.7
46-50	12.0	36.4	5.0	0.0
51-55	7.9	9.1	5.0	16.7
56-60	3.5	18.2	5.8	33.3
61 or above	2.6	0.0	1.0	0.0
Educational Level				
Basic School	5.7	0.0	2.7	0.0
High school or equivalent	7.2	9.1	24.8	16.7
Business Training	19.3	18.1	3.9	8.3
Short-term higher education	14.0	18.2	24.0	33.3
Middle-term higher education	36.8	45.5	20.3	25.0
Long-term higher education	17.1	9.1	24.2	16.7
Household Income Per Year				
0-99.000	2.8	0.0	4.8	0.0
100.000-199.000	4.4	9.1	6.8	0.0
200.000-299.000	10.9	18.2	17.2	8.3
300.000-399.000	14.0	0.0	19.9	25.0
400.000-499.000	17.5	18.2	17.2	25.0
500.000-599.000	21.9	9.1	17.2	8.3
600.000-699.000	12.0	18.2	6.6	8.3
700.000-799.000	7.4	18.2	4.8	16.7
800.000-899.000	3.3	0.0	2.9	8.3
900.000 or above	5.7	9.1	2.7	0.0

A word of caution should be put forward when interpreting the results regarding online medicine consumers as the statistics is based on just eleven and twelve respondents, respectively. This means that just a very few additional respondents could change the observed tendencies radically.

2. ONLINE SHOPPING BEHAVIOR IN GENERAL

Information seeking and online buying of various consumer goods

The results displayed in Table 6 support previous research (refer to WP) suggesting that music, videos & books, travels & vacation, PC-supplies, tickets, flowers/gifts, and clothes are the most popular online consumer goods. This result holds true in both Denmark and Sweden. In general, a large search activity is taking place on the Internet. When disregarding fast food, flowers, toys, and personal care items more than one third of the respondents have sought online information for each of the remaining products. An intercountry comparison reveals, that in general, both online information seeking and online buying are more widespread in Sweden than in Denmark.

A problem arises, however, when one looks at the propensity to buy online as compared to the propensity to seek information online. In Denmark 40.7% of the respondents have sought online information concerning groceries but only 7.2% have actually made an online grocery buying. In Sweden, the corresponding figures are 50.5% and 10.4%, respectively. Recognizing that some online information seeking may not be buying-oriented these results suggest, nevertheless, that many consumers have an open mind towards the idea of combining (at least some part of) their grocery buying process with the Internet channel. However, there seems to be some obstacles present, which prevent consumers from 'going all the way' and actually make an online grocery purchase. Such considerations hold also true in relation to a lot of other consumer products, e.g. household good and articles, PCs, furniture, medicine, personal care items, *etc.*

Table 6. Information Seeking and Online Buying of Various Consumer Goods

	Neither sought information nor purchased online	Sought information on the Internet <i>Denmark</i>	Purchased online	Neither sought information nor purchased online	Sought information on the Internet <i>Sweden</i>	Purchased online
Groceries	673 (55.1)	497 (40.7)	88 (7.2)	464 (43.9)	534 (50.5)	110 (10.4)
Household goods or articles	658 (53.8)	528 (43.2)	69 (5.6)	383 (36.2)	583 (55.1)	172 (16.3)
PCs	471 (38.5)	672 (55.0)	158 (12.9)	331 (31.3)	635 (60.0)	166 (15.7)
PC supply (pc programs etc.)	397 (32.5)	645 (52.8)	331 (27.1)	263 (24.9)	613 (57.9)	342 (32.3)
Furniture and housing equipment	516 (42.2)	667 (54.6)	64 (5.2)	296 (28.0)	699 (66.1)	99 (9.4)
Medicine	759 (62.1)	457 (37.4)	11 (0.9)	568 (53.7)	483 (45.7)	12 (1.1)
Travels and vacation	177 (14.5)	833 (68.2)	367 (30.0)	92 (8.7)	699 (66.1)	454 (42.9)
Pizza, fast food (delivery)	1000 (81.8)	184 (15.1)	56 (4.6)	863 (81.6)	176 (16.6)	29 (2.7)
Music, videos, books	235 (19.2)	699 (57.2)	460 (37.6)	69 (6.5)	614 (58.0)	717 (67.8)
Toys	817 (66.9)	343 (28.1)	88 (7.2)	665 (62.9)	321 (30.3)	131 (12.4)
Tickets (e.g. theatre tickets)	276 (22.6)	581 (47.5)	566 (46.3)	132 (12.5)	561 (53.0)	665 (62.9)
Flowers/gifts for delivery	748 (61.2)	307 (25.1)	258 (21.1)	527 (49.8)	362 (34.2)	312 (29.5)
Personal care items	755 (61.8)	398 (32.6)	101 (8.3)	724 (68.4)	259 (24.5)	112 (10.6)
Accommodation	399 (32.7)	816 (66.8)	11 (0.9)	136 (12.9)	889 (84.0)	56 (5.3)
Insurance	655 (53.6)	542 (44.4)	43 (3.5)	441 (41.7)	561 (53.0)	115 (10.9)
Clothes	580 (47.5)	477 (39.0)	253 (20.7)	363 (34.3)	522 (49.3)	334 (31.6)

Note: (Numbers in parantheses are in %)

In general, many theories (and in relation hereto theoretical concepts) have been put forward in trying to explain why consumers seem to be more likely to buy some products via the Internet as compared to other products. Especially, two theories seem to apply in the present context:

(1) Shopping Value: It has been advanced that a consumer will choose the (online or offline) shop that according to the consumer offers the greatest value (Sweeney & Soutar, 2001; Harnett, 1998; Levy, 1999). In relation hereto, two basic types of ‘shopping value’ can be identified (refer to e.g., Babin et al., 1994; Childers et al., 2001): (1) An ‘utilitarian shopping value’, which can be related to the consumer’s need to obtain some utilitarian consequences, i.e. a product or service, from visiting a store. This behavior can also be referred to as ‘problem solving behavior’ (Hirschman & Holbrook, 1982). (2) However, consumers do also choose among retailers from a need to obtain a ‘hedonic shopping value’. The hedonic shopping value refers to the consumer’s need to gain feelings through senses, and to obtain emotional arousal. That is, consumers do not only visit stores to solve problems but also to fulfil a desire and to obtain pleasure in their lives (Tauber, 1972; Østergaard & Jantzen, 2000). They may simply like the ‘adventure’ (Sherry, 1990) of visiting a store, even if they are not intending to buy anything. In fact, the consumer can have “an extremely fun and entertaining shopping experience without making a purchase” (Jones, 1999, p. 129). In a study of Singaporeans attitude toward online shopping, Liao & Cheung (2001) found that virtual shopping over the Internet did not fulfil the consumers’ need for a hedonic shopping value. Hence, it was concluded that “initiatives to...render the virtual marketplace more attractive and enjoyable in terms of shopping experience would

be required for further development” (pp. 304-305). Some hedonic attributes may, however, be extremely difficult to offer in the virtual marketplace. For example, in a study of consumer offline shopping experiences Jones (1999) found that “socializing with family and friends emerged as the highest reported factor characteristics of entertaining shopping experiences” (pp. 132-133). In addition, the Internet is often described as an interactive media or channel that allows consumers to take more control of the exchange information between marketers and consumers (Storm, 2001; Hoffman & Novak, 1996). In this connection, it is hypothesized that the consumer wants “convenience, speed, comparability, [low] price, and service” (Sampler & Hamel, 1998, p. 54). Thus, the consumer is expected to stress an utilitarian shopping value. Also, Wolfinbarger & Gill (2001) refer to their own recent online survey with 1.013 members of the Harris Interactive online panel. 71% of shoppers said their most recent online purchase had been previously planned, while 21% said they had been browsing (seeking for inspiration) when they made their purchase. Thus, Wolfinbarger & Gill conclude, “online shopping is more likely to be goal-focused [i.e., directed at obtaining an utilitarian shopping value] rather than experiential [i.e., directed at obtaining a hedonic shopping value]”.

When consumers buy utilitarian products they can be seen as more cognitively driven and goal oriented than when buying hedonic products, in which case they can be expected to be more affectively driven (refer to e.g., Strahilevitz & Myers, 1998). When consumers are cognitively driven (motivated) they can be expected to be more interested in obtaining an utilitarian shopping value (favouring online buying). In contrast, when consumers are affectively driven they can be expected to be more interested in obtaining a hedonic shopping value (favouring offline buying) (refer to Laurent & Kapferer, 1985). Thus, we

would expect consumers to put a higher weight on utilitarian shopping value than on hedonic shopping value for products, which can be described as utilitarian products. According to the considerations above, such products should more likely be bought via the Internet as compared to other products. In contrast, for products that can be described as hedonic products we would expect consumers to put a higher weight on hedonic shopping value than on utilitarian shopping value. Again, according to the considerations above, it should be expected that such products are less likely to be bought via the Internet as compared to other products

Based on an extensive review of previous research dealing with the utilitarian (cognitive) and/or hedonic (affective) dimensions of one or more of the investigated products (e.g., Laurent & Kapferer, 1985; Ratchford, 1987; Rossiter & Percy, 1987; Clayes et al., 1995), the following classification of the investigated products in relation to the utilitarian-hedonic dimension is proposed (Figure 1).

As can be seen from Figure 1 the utility-hedonic dimension offers some explanation regarding the extent to which consumers seek online information for various products. When disregarding furniture and travels/vacation very low ranks are assigned to hedonic products (in both Denmark and Sweden) included in the surveys. However, the utility-hedonic dimension offers very little explanation as to what extent consumers actually make an online purchase of various products (four out of six hedonic products receive relatively high ranks in both Denmark and Sweden).

Figure 1. Classification of products in relation to the utilitarian-hedonic dimension

Type	Product	Online Inf. seeking (Rank)		Purchased online (Rank)	
		DK	S	DK	S
Hedonic products	→ Furniture	5	2	12	13
	Travels and vacation	1	2	3	3
	Flowers/gifts	15	14	5	6
	Toys	14	13	9	9
	Personal care items	13	15	8	11
	Clothes	11	13	6	5
'Mixed' products	→ Groceries	10	10	9	12
	Household goods	9	7	11	7
	Pizza, fast food	16	16	13	15
	Music, videos, books	3	5	2	1
	Accommodation	2	1	15	14
Utilitarian products	→ PCs	4	4	7	8
	PC supply	6	6	4	4
	Medicine	12	12	15	16
	Insurance	8	8	14	10
	Tickets	7	8	1	2

Note: Rank 1 is assigned to the product for which most respondents have sought online information or the product, which has been bought online by most respondents, *etc.*

(2) Economics of Information: Search versus experience products:

The 'economics of information approach' (refer to Nelson, 1970; Steenkamp, 1989) argues that the main problem for the consumer is to evaluate the utility of each product alternative. Nelson proposed two methods for evaluating the utility of a product: search and experience. Search refers to the actual inspection of the product (or brand) prior to purchase to evaluate its utility. A consumer can search for quality as well as price. For many products, however, search is not possible or is too expensive. Two kinds of product-types can now be identified

(Peterson et al., 1997; Alba et al., 1997)⁵: (1) Search products: Products for which a major part of the perceived relevant attributes can be assessed prior to purchase; (2) Experience products: Products for which a major part of the perceived relevant attributes is difficult to assess prior to purchase and usage. It has been suggested (refer to e.g. Peterson et al., 1997) that products selected by consumers primarily on the basis of search attributes are most amenable to online retailing because direct experience is not required. In investigating this proposal, Figure 2 proposes a classification of the investigated products based on the search-experience dimension in an online context.

Figure 2. Classification of products in relation to the search-experience dimension

Type	Product	Online Inf. seeking (Rank)		Purchased online (Rank)	
		DK	S	DK	S
Search products	→ Music, videos, books	3	5	2	1
	Travels and vacation	1	2	3	3
	Tickets	7	8	1	2
	Flowers/gifts	15	14	5	6
	Toys	14	13	9	9
	PCs	4	4	7	8
	PC supply	6	6	4	4
	Insurance	8	8	14	10
Mixed products	→ Groceries	10	10	9	12
	Medicine	12	12	15	16
	Household goods	9	7	11	7
	Pizza, fast food	16	16	13	15
Experience products	→ Furniture	5	2	12	13
	Personal care items	13	15	8	11
	Clothes	11	13	6	5
	Accommodation	2	1	15	14

⁵ 'Credence goods' are not considered in the present context.

In both Denmark and Sweden, 5 out of the top 6 ranked products (in relation to online buying) are all classified as search products. From an economics of information perspective this result suggests that for many online products (i.e. many 'mixed' and experience products) online consumers are simply imperfectly informed and may therefore hesitate to move on to an online buying. However, in the remaining part of this report many other potential obstacles in relation to online buying will also be considered. (An extensive discussion of the search-experience perspective as well as criticism on the perspective is provided in the WP).

3. BENEFITS AND PROBLEMS IN RELATION TO THE ONLINE GROCERY STORE

Consumers may evaluate the Internet on a number of aspects. According to the theory of diffusion of innovations (e.g., Rogers, 1995; Verhoef et al., 2001), the acceptance of a new product depends on various factors related to the innovation itself (the Internet can be regarded as a new means of shopping) and the consumer. Robertson (1967) defined three types of innovations based on the degree to which they represent technological advances and changes in consumer behavior: (1) A discontinuous innovation is a major technological advance leading to new behavioral patterns among consumers adopting the product. (2) A dynamically continuous innovation is a new product representing major technological advantages that do not basically change existing consumer behavior. (3) A continuous innovation, which is a minor technological advance requiring no changes in existing consumer behavior. On the basis of these definitions online buying can be seen as a discontinuous innovation as it includes technological advances as well as changes in consumer behavior.

Rogers (1983, 1995) suggests five factors that increase the rate of acceptance and diffusion of innovations. The potential success of online grocery buying is in the present context evaluated in the light of these characteristics.

- *Communicability* is the ease with which the innovation can be observed or communicated among potential adopters. Like any other fashion the Internet, and hence online buying is obviously given much attention in the media and among

many people interested in IT-technology. Communicability is in the present context represented by the concept 'social norm', which refers to the degree of normative influence communicated from the respondent's social surroundings.

- *Triability or divisibility* refers to the possibility of trying the innovation without huge investments. People already established with access to the Internet may not take this aspect into account unless a hardware replacement is considered. Triability or divisibility is not regarded further here as all respondents had online access at the time when the surveys were carried out.
- *Complexity*, which refers to the potential adopter's perceived complexity of the product or of using the product. Even for consumers with Internet experience, online buying may seem very complex. Complexity is measured by a number of items (refer to Table 7).
- *Compatibility* is the degree to which the product is consistent with existing opinions, wants and past behavior. No doubt, many consumers will perceive online buying as a very alternative way of purchasing. For example, information processing is very different online compared to shopping in a physical shop. A number of items are applied in measuring compatibility (refer to Table 7).
- *Relative advantage* is the degree to which consumers perceive the innovation as superior to existing alternatives. People in favour of online buying often point to the fact that this way of purchasing is much easier, provides more information and offers quality products at lower prices as compared to traditional shopping outlets. The measuring of relative advantage includes a number of items (refer to Table 7).

Table 7. A Comparison of Online Grocery Buyers versus Non-online Grocery Buyers: Perceptions of Various Statements

Statement	DENMARK Has bought groceries via the Internet (n=88)			SWEDEN Has bought groceries via the Internet (n=110)			SWEDEN Has not bought groceries via the Internet (n=948)		
	Mean	Mean	Diff.	Mean	Mean	Diff.	Mean	Mean	Diff.
Most of my friends and acquaintances think that online grocery shopping is a good idea	2.79	2.24	**	2.81	2.27	**			
Members of my family think that it is a good idea to buy groceries via the Internet	2.89	2.09	**	3.35	2.35	**			
<i>Perceived complexity</i>									
Electronic shopping of groceries is complex because I cannot feel and see the products	3.50	4.32	**	3.36	4.04	**			
In general, Internet shopping is very complex	1.86	2.32	**	2.12	2.32	*			
It is hard to find the needed products when shopping groceries via the Internet	2.60	3.23	**	3.14	3.33				
It is difficult to order groceries online	2.06	2.74	**	2.47	2.73	*			
It is easy to compare the quality of groceries offered on the Internet	2.44	2.14	*	2.11	2.14				
It is easy to compare the prices of groceries offered on the Internet	3.24	3.30		3.09	3.29				
<i>Perceived compatibility</i>									
Buying groceries via the Internet is well suited to the way in which my household normally shop groceries	3.40	2.07	**	3.27	2.30	**			
Electronic of groceries is easy to fit into my daily life	4.17	3.35	**	3.45	2.54	**			
In general, electronic shopping yields little problems for me	4.08	3.38	**	3.71	3.17	**			
It is difficult to have groceries purchased via the Internet delivered at home	2.12	2.99	**	2.51	3.07	**			

<i>Perceived relative advantage</i>									
Electronic shopping of groceries is less exciting than buying them in a supermarket	3.18	4.05	**	3.16	3.78	**			**
Using electronic grocery shopping saves much time	4.19	3.66	**	4.07	3.68	**			**
Shopping groceries via the Internet is favourable as it makes me less dependent on opening hours	4.00	3.36	**	3.96	3.45	**			**
Online grocery shopping saves a lot of money	2.68	2.56		3.02	2.83				
<i>Other aspects (e.g. perceived risk)</i>									
There are too many untrustworthy shops on the Internet	3.03	3.39	**	3.07	3.27	**			
Security around payment on the Internet is not good enough	2.36	2.93	**	2.61	3.06	**			**
Return and exchange opportunities are not as good on the Internet as in the supermarket/non-Internet shop	2.88	3.37	**	3.40	3.63	**			
Possibilities for advice are much too poor on the Internet	3.19	3.52	**	3.50	3.51	**			
Arrangements for payment on the Internet is just as safe as every other payment method (1)	3.77	3.31	**	2.80	3.19	**			**
To have groceries purchased via the Internet delivered at home is too expensive	3.02	3.39	**	3.34	3.66	**			**
A risk in relation to buying groceries via the Internet is receiving low quality products or incorrect items	2.79	3.49	**	3.00	3.62	**			**
There is too many of my preferred grocery products that I cannot buy on the Internet	3.08	3.32	**	3.16	3.45	**			**

Notes:

Diff.: 2-tailed group-means t-test for statistical difference between intra-country means. (**: Significant at 0.01 level; *: significant at 0.05 level). All statements were measured on a 5-point likert scale ranging from 'totally disagree' to 'agree totally'. Due to the possibility of answering 'don't know', some of the means reported in Table 7 are based on a number of respondents less than the reported overall n for each group. This has been accounted for when calculating t-tests for statistical difference.
(1): In the Swedish survey this question was inverted.

Table 7 displays respondents' perceptions of aspects that are related to online grocery buying. These aspects can be aggregated into four general characteristics according the discussion above. Table 7 indicates that for most of the investigated aspects there is a significant difference between the opinions of online grocery buyers versus non-online grocery buyers. In both Denmark and Sweden respondents who have already carried out online grocery buying seem to have a more positive evaluation of most of the investigated aspects as compared to respondents who have not yet bought groceries via the Internet.

This result could, of course, be dealt with in the light of attitude theory. The 'Hierarchy of Effects' attitudemodel (Lavidge and Steiner, 1961; Blackwell et al., 2001) suggests that an aspect is first processed at its most basic level and then at more abstract levels (Dubois, 2000). Consumers are expected to use their cognitive resources in forming beliefs (cognitive component) toward the aspects of the Internet and online grocery buying, which in turn may result in the development of an overall feeling (affective component) in the sense of liking/disliking the Internet and online grocery buying. Consumers with a positive attitude toward online grocery buying can be expected to have more positive online grocery buying intentions (conative component), than consumers with a less positive attitude toward online grocery buying. A study conducted by Balabanis & Vassileiou (1999) concluded that consumers with a positive evaluation of Internet shopping tend to have a higher intention to buy online. Hence, attitude theory would suggest that online grocery shoppers having a more favourable attitude towards online buying might simply cause the obtained result from Table 7.

However, this interpretation might very well be an oversimplification. Assimilation theory (e.g., Rozin & Tuorila, 1993) claims that consumers would change their perceptions of relevant aspects in accordance with their experiences. That is, if consumers with positive apriori beliefs about online shopping experience unexpected (negative) levels of relevant aspects these consumers can be expected to change their beliefs (and probably also their attitude) in accordance hereto. We do not know from the present investigation the *prior* beliefs of online grocery consumers (e.g., a longitudinal investigation could explore this problem setting in more detail) but we do know that the *posterior* beliefs⁶ of online grocery respondents on many aspects are significantly more positive than the beliefs of non-online grocery buying respondents on the same aspects. Based on such considerations it seems fair to suggest that, in general, the expectations of non-online grocery buyers towards online grocery buying are probably more negative as compared to the experiences they would obtain if they carry out future online grocery buying.

On average, both Danish and Swedish online and non-online grocery respondents assign relatively low beliefs to the two *communicability* items mentioned in Table 7. This suggests that the normative social influence of carrying out online grocery buying is rather low even when the significant difference between the beliefs of online and non-online consumers are accounted for (refer also to Table 8). Also, most of the *complexity* items are assigned relatively low beliefs by both online and non-online respondents. One of the main beliefs among the respondents is that electronic shopping can be complicated because of the limited access to feel and see the specific products under consideration. However, all respondents seem to believe that it is relatively easy to make comparisons of online grocery

⁶That is, *after* online grocery buying has been carried out and *after* possible assimilation.

prices. The two main *advantages* associated with the Internet by online grocery consumers are that electronic shopping of groceries saves much time and that online shopping is favourable as it makes the respondents less dependent on opening hours. The main disadvantage⁷ perceived by non-online grocery respondents is that online grocery buying is less exciting when compared to offline grocery buying.

In relation to all the applied items, online grocery respondents perceive a high degree of *compatibility*⁷ of online grocery shopping. High levels of agreements are assigned by both Danish and Swedish online respondents to the statement that ‘electronic buying of groceries is easy to fit into my daily life’. Online respondents also agree that ‘electronic shopping yields little problems’. In addition, both online and non-online respondents do not find it difficult to have the bought groceries delivered. For all ‘compatibility-items’, online grocery respondents are significantly *more* positive than non-online grocery respondents.

Assigned weights to theoretical concepts

Based on already existing theoretical and empirical studies (e.g., Bourdeau et al., 2002; Childers et al., 2001; Van den Poel & Leuris, 1999; Verhoef & Langerak, 2001), a number of theoretical concepts have been applied in the surveys including:

General concepts

- Physical effort
- Time pressure
- Shopping enjoyment
- Purchase involvement

⁷ In the sense that online grocery shopping is compatible with existing daily behavior.

Internet-specific concepts

- Perceived relative advantage
- Perceived complexity
- Perceived compatibility
- Social norm (communicability)
- Perceived risk of online buying
- Post-purchase satisfaction

Many of the theoretical concepts have already been described (relative advantage, complexity, compatibility, and social norm (communicability)); refer to discussion in relation to Table 7 above. The remaining theoretical concepts have been considered and discussed in the WP. For the purpose of investigating the internal consistency of the measurements of the 10 theoretical concepts (i.e., when the various items are aggregated into concepts), calculations of Cronbach's alpha are shown in Table 8⁸. As can be seen most of the alpha values are > 0.60 indicating a sufficient reliability of the applied scales. Two values are close to the >0.60 threshold level. However, the conducting of two explorative factor analyses (one for DK and one for S) suggested that the discrimination between variables is maintained. Thus, acceptable evidence is provided that the theoretical constructs do exist and that they are tapped by the measures used, i.e., there is evidence that the constructs, as measured, are valid (refer to Mentzer & Kahn, 1995). The explaining power of the 10 theoretical concepts in determining future online grocery shopping is now considered (refer to Table 9).

⁸ In Table 8 some of the original applied items are not shown as these items have been excluded from further analysis because of an item-total correlation < 0.3 .

Table 8: Theoretical Constructs	Cronbach alpha	
	DK	S
PHYSICAL EFFORT		
I think the transportation of my bought grocery products is hard	0.80	0.75
The transportation of my bought groceries is exhausting		
TIME PRESSURE		
I am often in a hurry when I buy groceries	0.78	0.55
Usually there is so much to do that I wish I had more time		
SHOPPING ENJOYMENT		
I like to shop in shops that I do not know	0.75	0.76
I really like to visit different supermarkets		
PURCHASE INVOLVEMENT		
When I buy groceries, it is important to me what I choose	0.61	0.61
In general, there is a big difference between the groceries		
When I buy groceries, it is important to me that I make the right decisions		
PERCEIVED RELATIVE ADVANTAGE		
Using electronic shopping of groceries saves much time	0.65	0.60
Shopping groceries via the Internet is favourable as it makes me less dependent on opening hours		
PERCEIVED COMPLEXITY		
Electronic shopping of groceries is complex because I cannot feel and see the products	0.67	0.67
Electronic shopping is in general very complex		
It is hard to find the needed products when shopping groceries via the Internet		
With electronic shopping of groceries it is difficult to order products		
PERCEIVED COMPATIBILITY		
Buying groceries via the Internet is well suited to the way in which my household normally shop groceries	0.67	0.85
Electronic shopping of groceries is easy to fit into my daily life		
SOCIAL NORM		
Most of my friends and acquaintances think shopping groceries via the Internet is a good idea	0.72	0.81
Members of my family think that it is a good idea to buy groceries via the Internet		
PERCEIVED RISK OF ONLINE BUYING		
There are too many untrustworthy shops on the Internet	0.74	0.75
Security around payment on the Internet is not good enough		
Return and exchange opportunities are not as good on the Internet as in a non-Internet shop		
POST-PURCHASE SATISFACTION		
The groceries are often damaged when I receive them at home	0.72	0.80
The cold- and frozen goods are often inadequate cold/ frozen when I receive them at home		
I often lack room at home for returnable boxes and so		
I often have difficulties at home in disposing of non-recyclable packing		

Table 9. Determinants of Future Online Grocery Shopping* (Standardized Multiple Regression Weights)

Theoretical Construct	DENMARK Has bought groceries via the Internet (n=43)		SWEDEN Has bought groceries via the Internet (n=46)		SWEDEN Has not bought groceries via the Internet (n=155)	
	Weight	Weight	Weight	Weight	Weight	Weight
<i>General Constructs</i>						
Physical Effort	-0.002	-0.088	0.049	0.078		
Time Pressure	-0.206	0.097	0.159	-0.088		
Shopping Enjoyment	0.064	0.084	-0.114	-0.089		
Purchase Involvement	-0.234	-0.031	-0.004	0.053		
<i>Internet-specific Constructs</i>						
Perceived Relative Advantage	-0.024	0.077	0.120	0.166		
Perceived Complexity	-0.123	-0.169 a)	-0.288	-0.168		
Perceived Compatibility	0.481 b)	0.326 a)	0.440	0.292 a)		
Social Norm	0.314	0.140 a)	0.225	0.123		
Perceived Risk of Online Buying	0.031	-0.033	-0.096	0.067		
Post-purchase Satisfaction of Online Grocery Buying	0.283 (a)**	-	0.269 (a)**	-		
<i>Adjusted R square</i>	0.44	0.36	0.27	0.29		

a): Significant on 1%-level

b): Significant on 5%-level

*: Future online grocery shopping was measured by obtaining respondents' answers to the following statement: 'How large a part of your grocery shopping do you think you will carry out via the Internet in 5 years from now?' Answers were provided on a 7-point scale ranging from '0%' to 'more than 50%'.

**): To allow direct comparisons of R square between groups (i.e., 'has bought groceries via the Internet' *versus* 'has not bought groceries via the Internet'), these coefficients were estimated in a separate regression model with 'Post-purchase satisfaction of online grocery buying' as the only independent variable.

Due to the possibility of answering 'don't know', calculation of regression coefficients are based on a number of respondents, which is less than the reported overall n for each group. When n <50, the degrees of freedom move close to the acceptable limit for conducting regression analysis with nine independent variables. However, since there is a reasonable stability in the estimation of regression coefficients between groups, the results are presented and discussed.

The results of the applied multiple regression analyses show that all respondents (Danish and Swedish online and non-online grocery shoppers) put high weights⁹ on compatibility (0.292 to 0.481). This result suggests that consumers want online grocery shopping to fit into their daily lives and offline shopping patterns, they resist to change their daily behavior to engage in online grocery shopping. Unfortunately, not much research has been conducted on this issue (refer to WP for a review). However, the results displayed in Table 7 indicate that consumers perceive difficulties in having the purchased groceries delivered (a more detailed investigation of perceived delivery problems may be found in the analysis of the qualitative data on consumer online (and offline) behavior gathered in relation to the E-Bizz research). Therefore, despite the overall positive beliefs assigned to compatibility (refer to Table 7) improvements can apparently still be made in relation to this issue.

Danish and Swedish respondents do not assign significant weights to the relative advantage of online grocery buying. However, all respondents (Danish and Swedish online and non-online grocery respondents) believe to a fairly high degree that it is possible to save time by engaging in online grocery buying (refer to Table 7). For Danish and Swedish respondents who have already bought groceries via the Internet post-purchase satisfaction is very important (DK: 0.283, p-value<0.001; S: 0.258, p-value<0.001) when they are considering engaging in future online grocery buying (Table 9). Unfortunately, both Danish and Swedish online and non-online grocery respondents are not in total disagreement with the

⁹ Three of these weights are significant ($\alpha=0.05$).

statement that ‘it is likely to receive low quality products or incorrect grocery items when one buy groceries via the Internet’ (refer to Table 7)¹⁰.

The general constructs, physical effort, time pressure, shopping enjoyment, and purchase involvement do not seem to be of significant importance to respondents when considering their amount of future online grocery shopping. This result holds true for both Danish and Swedish online and non-online grocery respondents. Also, all groups of respondents place insignificant weights on perceived risk of online buying. Danish non-online grocery respondents assign significant weights to the Internet specific concepts complexity and social norm. However, the other three investigated groups do not confirm this significance. Danish and Swedish online grocery respondents and Swedish non-online grocery respondents put negative (but insignificant) weights on the complexity of carrying out online grocery buying and positive (but insignificant) weights on social norm as determination factors for their expected amount of future online grocery buying (Table 9). Respondents’ main concern seems to be that they cannot feel and see the grocery products when considering purchasing them (refer to Table 7). Table 9 indicates that approximately 30-40% of the variation in future online grocery shopping can be explained by linear multiple regression of the 9 theoretical concepts¹¹ on future online grocery buying. This result suggests that the theoretical concepts (when considered as a whole) *are* important but that also other aspects should be taken into consideration when seeking to understand consumer choice behavior in relation to future online grocery shopping.

¹⁰ Even though online grocery respondents are a little more positive on this issue than non-online grocery respondents.

¹¹ Post-purchase satisfaction was excluded from the calculation of R square.

4. ASSORTMENT AND DELIVERY

Table 10. The Required Assortment of the Online Grocery Store

Please indicate how important it is to you, that you can buy the following type of goods at an Internet grocery store?

	Vegetables	Fruit	Meat	Fish	Fillings	Dairy products	Frozen goods	Ecological products
(A) Has not bought grocery online	1134	1134	1134	1134	1134	1134	1134	1134
Mean	1,85	1,83	1,82	1,57	1,79	1,83	2,01	1,83
(B) Has bought grocery online	88	88	88	88	88	88	88	88
Mean	3,50	3,33	3,11	2,53	2,72	2,85	3,08	3,67

Notes: All mean differences between group A and B were significant at the 1%-level.

All statements were measured on a 5-point scale ranging from 'slightly important' to 'very important'.

SWEDEN

	Vegetables	Fruit	Meat	Fish	Fillings	Dairy products	Frozen goods	Ecological products
(A) Has not bought grocery online	948	948	948	948	948	948	948	948
Mean	2,36	2,36	2,33	2,26	2,46	2,52	2,52	2,34
(B) Has bought grocery online	110	110	110	110	110	110	110	110
Mean	2,67 (b)	2,64 (b)	2,63 (b)	2,38	2,83 (a)	3,02 (a)	2,95 (a)	2,30

Notes: (a) Mean difference between 'group A mean' and 'group B mean' is significant different from zero at the 1% level.

(b) Mean difference between 'group A mean' and 'group B mean' is significant different from zero at the 5% level.

All statements were measured on a 5-point scale ranging from 'slightly important' to 'very important'.

Table 10 displays respondents' required assortment of the online grocery store. All respondents assign surprisingly low weights to the considered types of grocery products. Low weights are especially assigned by all Swedish respondents (online and non-online) and by Danish non-online grocery respondents. However, only respondents who actually plan to carry out *future* online grocery shopping can be expected to care about the assortment in future online grocery stores. That is, if some of the present online grocery respondents (n=88, DK; n=110, S) do not want to continue buying groceries online in the future this *might* influence the result.

To investigate the explaining power of this argument respondents were divided into two groups: (A) respondents who, in 5 years from now, intend to use 10% or less of their household grocery budget on online grocery shopping; (B) respondents who, in 5 years from now, intend to use more than 10% of their household grocery budget on online grocery shopping. The results of this additional investigation are displayed in Table 11. However, as can be seen from Table 11 the proposed argument is not supported. Both groups of respondents (in both countries) still assign low weights to the investigated types of grocery products. To conclude, consumers' assortment requirements seem surprisingly low and can, based on the present results, hardly be regarded as a major obstacle for firms considering launching an online grocery store.

Table 11. The Required Assortment of the Online Grocery Store
- (Respondents divided according to future online buying intention) -

Please indicate how important it is to you, that you can buy the following type of goods at an Internet grocery store?

DENMARK										
	Vegetables	Fruit	Meat	Fish	Fillings	Dairy products	Frozen goods	Ecological products		
(A) Intend to use 10% or less of household grocery budget	652	652	652	652	652	652	652	652		
Mean	1.55	1.53	1.54	1.36	1.48	1.49	1.61	1.56		
(B) Intend to use more than 10% of household grocery budget	570	570	570	570	570	570	570	570		
Mean	2.45 (a)	2.41 (a)	2.33 (a)	1.97 (a)	2.28 (a)	2.38 (a)	2.64 (a)	2.42 (a)		

SWEDEN										
	Vegetables	Fruit	Meat	Fish	Fillings	Dairy products	Frozen goods	Ecological products		
(A) Intend to use 10% or less of household grocery budget	497	497	497	497	497	497	497	497		
Mean	2.25	2.25	2.20	2.14	2.27	2.29	2.27	2.24		
(B) Intend to use more than 10% of household grocery budget	561	561	561	561	561	561	561	561		
Mean	2.51 (a)	2.51 (b)	2.51 (a)	2.38 (b)	2.71 (a)	2.82 (a)	2.83 (a)	2.42		

Notes: (a) Mean difference between 'group A mean' and 'group B mean' is significant different from zero at the 1% level.

(b) Mean difference between 'group A mean' and 'group B mean' is significant different from zero at the 5% level.

All statements were measured on a 5-point scale ranging from 'slightly important' to 'very important'.

Delivery in a value/service-output perspective

The consumer's perceived value has been viewed as a strategic and fundamental term for the retail industry (refer to Sweeney and Soutar, 2001). 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*. In the retail industry, 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/service-output perspective point of view, a retailer thus achieves a competitive advantage by offering the consumer greater total value than the competitors.

By shopping via the Internet the consumer gives up the physical environment of the store and therefore the ability to see, touch and smell the grocery products (refer to Ring & Tigert, 2001). In addition, online consumers may face constrained times for delivery as well as delivery costs. These costs must be balanced against the benefit of having the retailer to

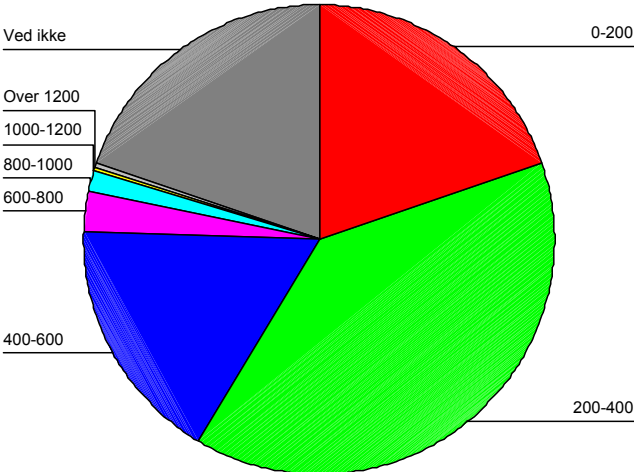
pick the order and deliver it at home (or alternatively at work or some other place). From the consumer's point of view another aspect should, however, also be taken into consideration. The consumer cannot be expected to pay more for delivery than the amount, which according to the consumer represents a fair fee. From an economic perspective, the total costs of delivery will not be strictly correlated with the size of the order given by the consumer. For example, costs of transportation (truck and driver) from the local retailer (or warehouse) to the consumer will not be highly affected by the size of the order. Therefore, the retailer can be expected to obtain a higher profit (in absolute terms, i.e. in DKK or SEK) in relation to a large consumer order than in relation to a smaller consumer order. Evidence suggests, that the consumer is capable of carrying out this way of reasoning (refer to e.g. Kirmani & Wright, 1989). Hence, in accordance to these considerations the respondents have been asked to give their response to the following statement: 'What would you find reasonable that your minimum outlay should be to get free packing and delivery when you buy groceries on the Internet?' Answers were measured on a 7-point scale ranging from 0-200 DKK/SEK to more than 1.200 DKK/SEK. The results are displayed in Figure 3.

On average, most Danish and Swedish consumers find it reasonable that a 200-600 DKK/SEK order should be placed to get free packing and delivery. Only few Danish and Swedish consumers find that >600 DKK/SEK would be a reasonable order size to get free packing and delivery. However, these demands may be deemed unrealistic by retailers (refer to Ring & Tigert, 2001). It was therefore investigated whether online grocery respondents have more 'realistic viewpoints' than non-online respondents.

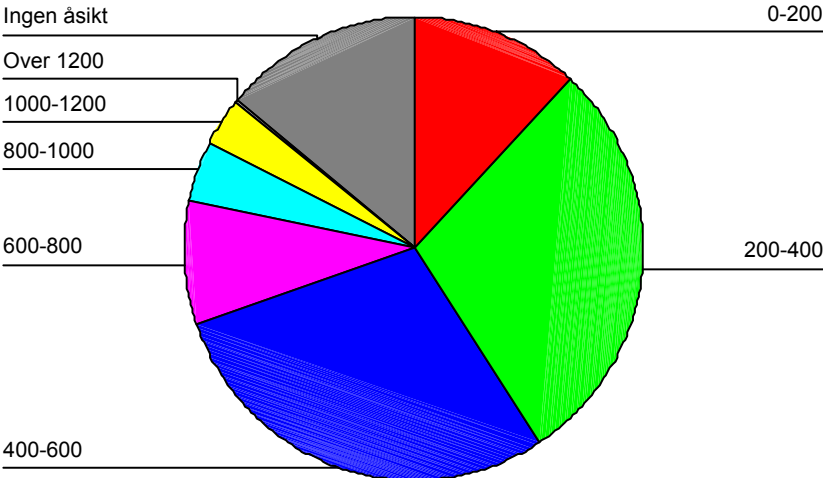
Figure 3. Perceived Reasonable Outlay to Get Free Packing and Delivery

What would you find reasonable that your minimum outlay should be to get free packing and delivery when you buy groceries on the Internet?

DENMARK (DKK)

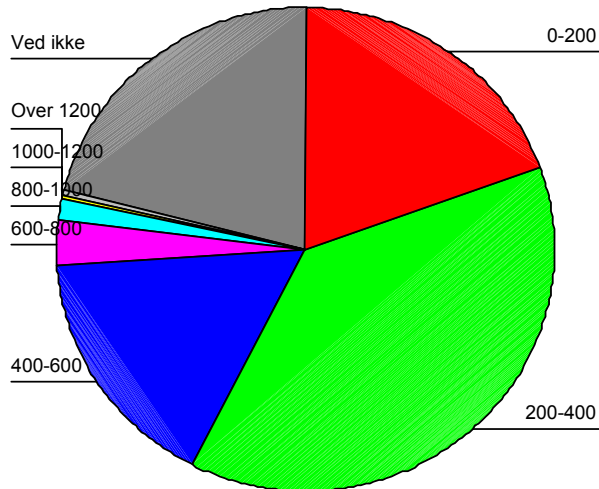


SWEDEN (SEK)

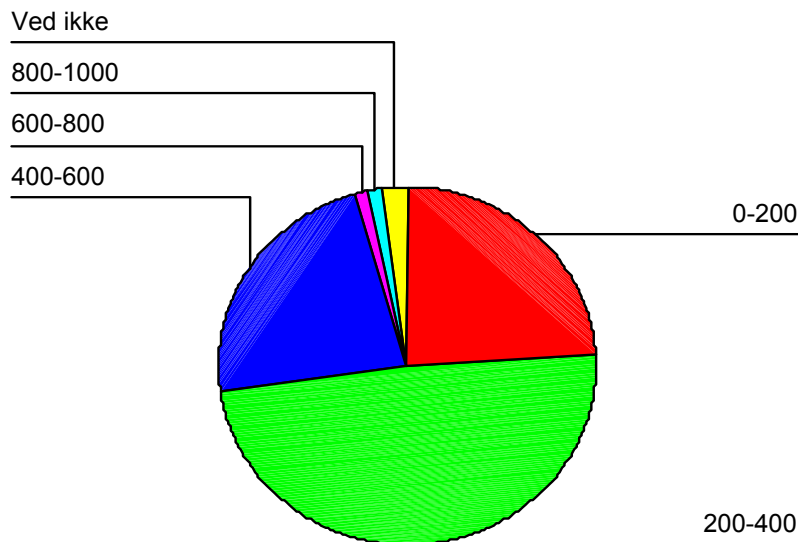


What would you find reasonable that your minimum outlay should be to get free packing and delivery when you buy groceries on the Internet?

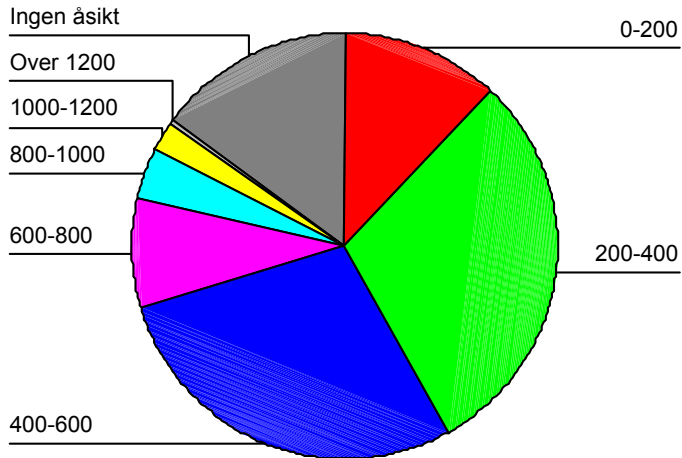
DENMARK (DKK) (Has *not* bought groceries via the Internet)
N=1134



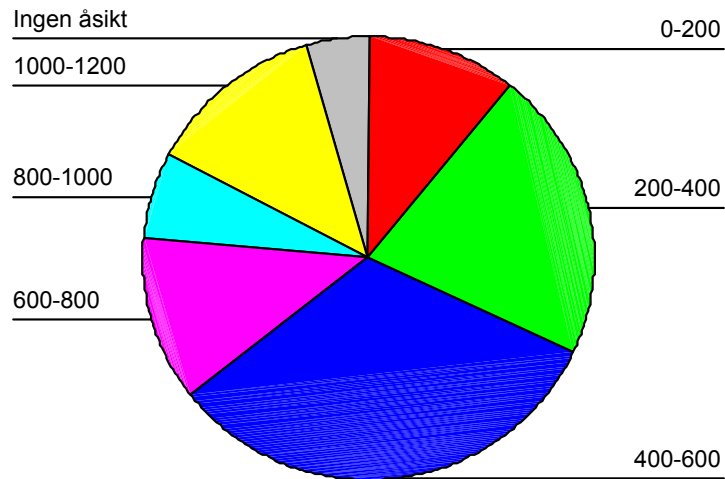
DENMARK (DKK) (Has bought groceries via the Internet). N=88.



SWEDEN (SEK) (Has *not* bought groceries via the Internet)
N=948



SWEDEN (SEK) (Has bought groceries via the Internet)
N=110



As can be seen from Figure 3 Danish online grocery respondents are (surprisingly) not more willing to accept a higher outlay to get delivery than non-online grocery respondents. Among Danish online grocery respondents almost one *half* even find that 200-400 DKK would be a reasonable outlay. Swedish online grocery respondents seem (from the retailers point of view) a little more positive as approximately 30% are willing to accept an outlay of minimum 600 SEK to get free packing and delivery.

Table 12. Outlay Combined With Delivery Fee

What delivery fee would you find reasonable to charge if you bought below the minimum outlay you selected above? [Refer to Figure 3 above]

DENMARK (DKK)

	0-200	200-400	400-600	600-800	800-1000	1000-1200	>1200	No opinion	Total
0	70	6	1	1	1			15	94
0-20	95	212	35	6	2			16	366
20-40	43	197	103	13	7			9	372
40-60	16	44	53	12	4	3		2	134
60-80	1	3	6	3	2				15
80-100	2	1	5		1		2		11
Over 100	5	2	2				1		10
No opinion	9	10	1					200	220
	241	475	206	35	17	3	3	242	1222

SWEDEN (SEK)

	0-200	200-400	400-600	600-800	800-1000	1000-1200	>1200	No opinion	Total
0	34	9	3	1				5	52
0-20	36	90	45	5		2			178
20-40	22	145	121	25	11	3		2	329
40-60	9	43	97	42	22	9		2	224
60-80	2	1	16	9	5	6			39
80-100	5	4	13	8	6	11	1		48
Over 100	7	3	3		1	1	2		17
No opinion	11	11	7	1	1	3		137	171
	126	306	305	91	46	35	3	146	1058

For the grocery retailer it is also of interest to gain insight into consumers' willingness to accept a certain delivery fee if they buy *below* the minimum outlay, which they consider reasonable to get free packing and delivery. If for instance a consumer believes that 400-600 DKK or SEK is a reasonable outlay to get free packing and delivery what amount of delivery fee will that consumer accept when placing an order worth *less* than 400 DKK or SEK? The results of this investigation are displayed in Table 12.

From Table 12 a general pattern can be observed among both Danish and Swedish respondents. On average, the higher the outlay respondents' consider reasonable to get free packing and delivery the more they are willing to pay (in delivery fee) if they place an order worth less this outlay. The explanation is most likely that 'high-outlay' respondents generally hold a more understanding attitude towards the retailer's delivery-costs than do 'low outlay' respondents and that this 'understanding attitude' affects the delivery-fee they are willing to pay. The results shown in Table 12 also suggest that retailers should probably not charge a 'small-order' with a delivery fee larger than 40 DKK/SEK. Otherwise, too many consumers may deem the service output per used resource unit (money) unfavorable.

5. OFFLINE SHOPPING BEHAVIOR

Table 13. Off-line Shopping Planning

Statement	DENMARK Has bought groceries via the Internet (n=88)			SWEDEN Has bought groceries via the Internet (n=110)		
	Mean	Mean	Diff.	Mean	Mean	Diff.
I/we write a shopping list	3.70	3.78		3.35	3.36	
I/we look for special offers on the Internet	2.08	1.41	**	1.67	1.27	**
I/we read special bargain folders/advertising folders	3.53	3.79	*	2.78	2.90	
I/we choose the store/stores in advance	4.09	4.12		4.05	4.04	
I/we choose in advance which products (e.g. a cereal/product) I/we want to buy	3.85	3.86		3.65	3.62	
I/we choose in advance which brand (e.g. Kellogg's Cornflakes) I/we want to buy	3.53	3.55		3.30	3.17	

Notes:

Diff.: 2-tailed group-means t-test for statistical difference between intra-country means. (**: Significant at 0.01 level; *: significant at 0.05 level). All statements were measured on a 5-point scale ranging from 'never' to 'always'.

A majority of product choices are made in-store (Dahlén & Lange, 2002). Since most purchases are low involvement, simple external cues are consequently all that are needed. This means that consumers may be greatly influenced by the store layout and promotional activities (cf. Dahlén & Lange, 2002). In Table 13 the amount of respondents' shopping planning is investigated on the basis of six criteria. The five of the six criteria (all criteria's except: 'I/we look for special offers on the Internet') suggest that a fairly high amount of offline shopping planning is carried out among Danish and Swedish consumers. This result is supported by similar results obtained by Hansen et al. (1999)¹² in a study of shopping patterns among Danish consumers.

The results displayed in Table 13 are not necessarily in conflict with the findings that 'a majority of products choices are made in-store'. As it is also known from past research consumers buy grocery products for different kinds of purposes (e.g. Rossiter & Percy, 1987). For example, one type of buying purpose can be assumed to reflect 'neutral motivations' (e.g., buying for daily purposes, which can be regarded as an 'out of stock' situation) whereas other types of buying purposes can be assumed to reflect 'positive motivations' (e.g., buying for guest purposes, buying for enjoy purposes, impulse buying, buying for reasons of variety seeking¹³, etc.). Most likely, it can be assumed that consumers wish to make sure that they do not forget to buy the 'out-of-stock products' while they are in the supermarket. Also, it is known from involvement research that consumers often tend to routinize their decisions to save time and mental resources. These considerations suggest that consumers pre-plan at least some of their in-store behavior. However, more in-depth

¹² Selected results of this investigation are included in the WP.

¹³ For example, variety seeking is common in relation to the daily dinner.

research is needed concerning these aspects to obtain a more detailed understanding of consumers' shopping planning behavior¹⁴.

Table 14. The Combination of Daily Shopping with Other Trips

Job → Grocery shopping (DENMARK)

	Frequency	Percent	Cumulative Percent
Never	130	10,6	10,6
Rarely	135	11,0	21,7
Sometimes	279	22,8	44,5
Often	582	47,6	92,1
Always	96	7,9	100,0
Total	1222	100,0	

Job → Grocery shopping (SWEDEN)

	Frequency	Percent	Cumulative Percent
Never	133	12,6	12,6
Rarely	137	12,9	25,5
Sometimes	271	25,6	51,1
Often	443	41,9	93,0
Always	74	7,0	100,0
Total	1058	100,0	

In relation to consumers offline shopping behavior it was also investigated to what degree respondents combine their 'daily' shopping trip with other trips. A lot of different trips were included in the investigation (e.g., workplace → grocery shopping; workplace → grocery shopping → collecting children; workplace → leisure activities → grocery shopping, *etc.*). As already stated consumers give up a lot of different dimensions if they choose to order groceries via the Internet for home delivery. They cannot talk directly with

¹⁴ In an empirical study, Dahlén & Lange (2002) contrasted Internet shopping with physical store shopping. The findings show discrepancies with regard to the amount and form of purchase planning. Internet shoppers plan their purchases better and seem to be less susceptible to marketing activities. However, these discrepancies can be attributed to differences in store stimuli, as the Web retail interface, according to Dahlén & Lange, is not well designed in marketing terms (cf. Dahlén & Lange, 2002).

the store personnel¹⁵ and they cannot ask for many specific products, particularly in the fresh food area. Also, consumers who choose home delivery cannot combine that grocery shopping trip with other trips to the same geographical area. While it may be argued that Internet grocery shopping is more convenient because it is done from the home and saves time and use of the car (or other modes of transportation), the grocery trip can also be seen as a part of a multi-stop trip (cf. Ring & Tigert, 2001). The by far most utilized multi-stop trip among the respondents was ‘job → grocery shopping’ (Table 14). As can be seen from Table 14 more than 50% of the Danish respondents and approximately 50% of the Swedish respondents engage ‘often or always’ in the ‘job → grocery multi-stop trip’. However, Danish and Swedish respondents, rarely conduct other kinds of multi-stop (shopping) trips. Thus, Danish and Swedish consumers’ offline multi-stop behavior will probably not have to undergo major changes should these consumers choose to engage in online grocery shopping.

Table 15 shows that Danish and Swedish households commonly buy groceries 2-3 times a week. Similar results have been obtained by Hansen et al. (1999), refer to WP for a review. Table 16 displays the estimated distance from respondent’s permanent address to the shop where the respondent does his/her main shopping of groceries. As can be seen from Table 16 store location (or ‘distance’ from the respondent’s point of view) is a factor that seems to influence store choice greatly. An overwhelming part of both Danish and Swedish online and non-online grocery respondents choose their main grocery shop within relatively close distance to their permanent address.

¹⁵ Being the case in present international grocery online outlets (refer to Ring & Tigert, 2001).

Table 15. How many times a week does the household normally buy groceries?

DENMARK

	Frequency	Percent	Cumulative Percent
8 times or more	25	2,0	2,0
6-7 times	137	11,2	13,3
4-5 times	380	31,1	44,4
2-3 times	603	49,3	93,7
Once a week	73	6,0	99,7
Less than once	4	,3	100,0
Total	1222	100,0	

SWEDEN

	Frequency	Percent	Cumulative Percent
8 times or more	12	1,1	1,1
6-7 times	63	6,0	7,1
4-5 times	219	20,7	27,8
2-3 times	612	57,8	85,6
Once a week	130	12,3	97,9
Less than once	22	2,1	100,0
Total	1058	100,0	

A comparison of Danish online and non-online grocery respondents reveals that online grocery respondents (73.9% live within a distance of 0-2 km from the main grocery shop) do not face a longer distance to their main grocery shop than do non-online grocery respondents (63.9% live within a distance of 0-2 km from the main grocery shop). Also, very few Danish online and non-online grocery respondents (approximately 10% in each group) have more than 6 km to their main grocery shop. The conducting of a chi-square test ($\chi^2 = 4.57$; p-value=0.712) supports these considerations showing no dependency between online grocery buying tendency and distance from permanent address.

Table 16. Estimated distance from respondent's permanent address to the shop where the respondent does his/her main shopping of groceries

DENMARK

(Has *not* bought groceries via the Internet)

	Frequency	Percent	Cumulative Percent
> 20 km	14	1.2	1.2
14-20 km	17	1.5	2.7
10-14 km	34	3.0	5.7
6-10 km	69	6.1	11.8
4-6 km	91	8.0	19.8
2-4 km	180	15.9	35.7
0-2 km	725	63.9	99.6
Don't know	4	0.4	100
Total	1134	100,0	

(Has bought groceries via the Internet)

	Frequency	Percent	Cumulative Percent
> 20 km	1	1.1	1.1
14-20 km	0	0	1.1
10-14 km	2	2.3	3.4
6-10 km	4	4.5	7.9
4-6 km	6	6.8	14.7
2-4 km	10	11.4	26.1
0-2 km	65	73.9	100
Don't know	0	0	
Total	88	100,0	

Among Swedish respondents the results indicate that online grocery respondents may not live as nearby their main grocery shop (43.6% face a distance of max. 2 km) as non-online grocery respondents (53.9% face a distance of max. 2 km). In addition, 27.2% of online grocery respondents have more than 6 km to their main grocery store, whereas just 18.5% of non-online grocery respondents have more than 6 km to their main grocery store. The conducting of a chi-square test ($\chi^2 = 14.46$; p-value=0.044) supports the presence of a *slight*

(p-value close to 0.05) however significant dependency between online grocery buying tendency and distance from permanent address.

Table 16 continued...

SWEDEN

(Has *not* bought groceries via the Internet)

	Frequency	Percent	Cumulative Percent
> 20 km	29	3.1	3.1
14-20 km	32	3.4	6.5
10-14 km	48	5.1	11.6
6-10 km	65	6.9	18.5
4-6 km	85	9.0	27.5
2-4 km	175	18.5	46.0
0-2 km	511	53.9	99.9
Don't know	3	0.3	100
Total	948	100,0	

(Has bought groceries via the Internet)

	Frequency	Percent	Cumulative Percent
> 20 km	4	3.6	3.6
14-20 km	4	3.6	7.2
10-14 km	7	6.4	13.6
6-10 km	15	13.6	27.2
4-6 km	13	11.8	39.0
2-4 km	17	15.5	54.5
0-2 km	48	43.6	98.1
Don't know	2	1.8	100
Total	110	100,0	

General considerations about the influence of distance on consumer patronage behavior

It can be argued that, over the last couple of decades, the importance of distance may have diminished in explaining consumer store patronage behavior. The reason for this is that the obstacles of visiting various stores for comparison-shopping have decreased (Eppli, 1998).

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. Similarly, 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 (EIU, 1995; 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. Research carried out by Hansen & Solgaard (2002) suggests that the importance of distance decrease according to how much the consumer believes s/he will achieve, or plans to achieve by visiting a particular store. A consumer who plans to spend a large percentage of her/his housekeeping budgets in a particular store seems to be less influenced by the distance to the store than a consumer who plans to spend only a small percentage of her/his housekeeping budgets at the same store. From an economic point of view, this is due to the fact that 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.

6. VALUES AS POSSIBLE DRIVERS OF ONLINE GROCERY SHOPPING

Values can be defined as “relativistic (comparative, personal, situational), reference characterizing a subject’s experience of interacting with some object” (Holbrook, 1994, p.27). Bourdeau et al. (2002) argue that values “...may influence the purchase of products or services, but they [may] also influence the use of the experience, like the Internet” (p. 62). In the following, the influence of a total of 20 value items on consumers’ future online grocery buying intention is investigated¹⁶.

The respondents were asked to weigh the 20 value items according to how important they are to the respondent’s life. Responses were measured on a 5-point scale ranging from ‘not important’ to ‘extremely important’. Initially, it was investigated whether this relatively high number of value items could be reduced by applying principal components analysis, which is widely recognized as a method for data reduction¹⁷ (see e.g. Bagozzi, 1994). Bartlett’s test of sphericity (DK: $p < 0.001$; S: $p < 0.001$;) and the Keyser-Meyer-Olkin measure of sampling adequacy (DK: 0.872; S: 0.869) indicated that the correlation matrix was appropriate for principal component analysis. The eigenvalue (>1) criterion and the scree test both suggested a four-dimension solution for both Danish and Swedish value-items (Table 17). The four value-dimensions were judgmentally labelled

¹⁶ The value items were inspired from Schwartz’ list of values (refer to e.g. Schwartz & Bilsky, 1987; Schwartz, 1992).

¹⁷ Cluster analysis (hierarchical and k-means) has also been employed. However, it was not possible to describe the various clusters in terms of demographic characteristics. Therefore, the results of the cluster analysis are not reported.

‘freedom/excitement’, ‘tradition/true friendship’, ‘efficiency/materialism’, and ‘selfcontrol/avoid extremes’.

As can be seen from Table 17 quite similar factor structures emerged for the Danish and Swedish respondents. All value items had a salient loading (>0.30 when n is large) although some items had a salient loading on more than one factor. However, when focusing on the largest loadings meaningful principal components results are obtained. The first value-dimension (freedom/excitement) was positively correlated to especially ‘enjoy life’, ‘freedom of action and thought’, ‘a varied life’, ‘tolerance to different ideas and beliefs’, ‘a healthy life’, ‘maintain self-respect’, ‘an exciting life’, and ‘protect the environment’. The second value-dimension (tradition/true friendship) was positively correlated to ‘close friends’, ‘to be polite’, ‘obtain safety for the beloved’, and ‘to be helpful’. The third value-dimension (efficiency/materialism) was positively correlated to ‘competent, effective, and efficient’, ‘social recognition and respect’, ‘impact on people and events’, and ‘to achieve material wealth’. The fourth value-dimension (self-control/avoid extremes) was positively correlated to ‘self-discipline/resist temptations’ and ‘avoid extremes of feeling and action’.

Table 17. Principal components analysis (consumer's assigned weights to value-items)

Varimax Rotation	DENMARK				SWEDEN			
	Freedom/ excite- ment	Tradition/ true friendship	Efficiency /materialism	Selfcon- trol/avoid extremes	Freedom/ excite- ment	Tradition/ true friendship	Efficiency /materialism	Selfcon- trol/avoid extremes
To be competent, effective and efficient	0,157	0,355	0,429			0,346	0,545	
To have close friends	0,223	0,702			0,171	0,704		
To be polite		0,641	0,218	0,378		0,673	0,175	0,416
To enjoy life	0,472	0,452	0,160	-0,166	0,545	0,477		
To obtain social recognition and respect	0,125	0,313	0,506	0,181	0,114	0,183	0,725	0,182
To obtain safety for my beloved ones	0,172	0,615			0,185	0,637		0,112
To have freedom of action and thought	0,656	0,233	0,105		0,497	0,479		-0,159
To have a varied life	0,704	0,167	0,156		0,697	0,297	0,104	
To have respect for traditions		0,508	0,133	0,376		0,350	0,142	0,423
To be tolerant to different ideas and beliefs	0,544	0,264	-0,162	0,163	0,434	0,399	-0,253	
To have an impact on people and events	0,182		0,617	0,191	0,162		0,660	0,149
To be helpful	0,370	0,487		0,377	0,136	0,560		0,476
To have self-discipline and to resist temptations	0,103	0,251	0,274	0,615	0,196	0,123	0,173	0,697
To obtain pleasure in life	0,452	0,121	0,519	0,116	0,517		0,402	0,192
To achieve material wealth			0,758			-0,143	0,790	
To live a healthy life	0,538	0,204		0,380	0,578			0,539
To maintain self-respect	0,594		0,305		0,579	0,200	0,168	0,321
To have an exciting life	0,642		0,342		0,720		0,277	
To avoid extremes of feeling and action			0,238	0,697	-0,148		0,201	0,614
To protect the environment	0,547		-0,250	0,445	0,425	0,212	-0,333	0,417
<i>Cumulative variance (%)</i>	<i>16.4</i>	<i>29.0</i>	<i>40.2</i>	<i>49.3</i>	<i>14.9</i>	<i>29.0</i>	<i>41.3</i>	<i>52.4</i>

Note: Factor loadings <0.10 have been suppressed.

The effects of the value-dimensions on future online grocery buying intention were now investigated for both Danish and Swedish respondents. The results of the applied multiple regression analyses are displayed in Table 18. Very low standardized regression coefficients (although some are significant) were obtained for all four value-dimensions and for both Danish and Swedish online and non-online respondents. Also, the coefficients of determination, R^2 , showed remarkable low values ranging from 0.009 to 0.059. Hence, the results suggest that the proportion of variation in future online grocery buying is not well explained by the four value-dimensions (just 0.9% to 5.9% of the variation in future online grocery buying has been explained).

However, since the cumulative variance of the 20 value items explained by principal components analysis was just $\approx 50\%$ for both Danish and Swedish respondents, it is investigated whether this result is supported when the 20 value-items are regressed collectively as individual items (without data-reduction) on future online grocery buying intention (Table 19). (Due to lack of degrees of freedom it was in this case not possible to split respondents into online and non-online grocery buyers).

**Table 18. Values as Possible Determinants of Future Online Grocery Shopping Intention
(Standardized Multiple Regression Weights)**

Theoretical Construct	DENMARK		SWEDEN	
	Has bought groceries via the Internet (n=88)	Has <i>not</i> bought groceries via the Internet (n=1134)	Has bought groceries via the Internet (n=110)	Has <i>not</i> bought groceries via the Internet (n=948)
	Weight	Weight	Weight	Weight
Freedom / excitement	0.028	-0.030	-0.030	-0.002
Tradition / true friendship	-0.007	-0.064 b)	-0.056	-0.066
Efficiency / materialism	0.041	0.087 a)	0.082 a)	0.093
Selfcontrol / avoid extremes	0.084	-0.081 a)	-0.093 a)	-0.076
<i>Adjusted R square</i>	<i>0.009</i>	<i>0.019</i>	<i>0.059</i>	<i>0.013</i>

Notes: Dependent variable: 'How large a part of your grocery shopping do you think you will carry out via the Internet in 5 years from now?' Responses were measured on a 7-point scale ranging from '0%' to 'more than 50%'

- a): Significant on 1%-level
- b): Significant on 5%-level

Table 19. Values as Possible Determinants of Future Online Grocery Shopping Intention (Multiple regression analyses of individual value-items, standardized multiple regression weights)

	DENMARK	SWEDEN
	Future online grocery buying intention	Future online grocery buying intention
To be competent, effective and efficient	0,104 a)	0.012
To have close friends	0,002	-0.041
To be polite	-0.055	0.020
To enjoy life	0,043	-0.085
To obtain social recognition and respect	-0.050	0.043
To obtain safety for my beloved ones	-0.032	0.032
To have freedom of action and thought	-0.122 a)	0.070
To have a varied life	-0.003	-0.088 b)
To have respect for traditions	-0.044	-0.020
To be tolerant to different ideas and beliefs	0,092 a)	0.057
To have an impact on people and events	0,026	-0.054
To be helpful	-0.037	0.037
To have self-discipline and to resist temptations	-0.017	0.013
To obtain pleasure in life	0,015	-0.040
To achieve material wealth	0.117	0.134 a)
To live a healthy life	-0.031	-0.011
To maintain self-respect	0,005	0.052
To have an exciting life	0,021	0.101 a)
To avoid extremes of feeling and action	-0.057	-0.122 a)
To protect the environment	0.020	-0.039
<i>Adjusted R square</i>	<i>0.053</i>	<i>0.052</i>

a): Significant on 1%-level; b): Significant on 5%-level

Due to large degrees of multicollinearity (refer to the results of Bartlett's test of sphericity and the Keyser-Meyer-Olkin measure of sampling adequacy as reported above), the individual standardized regression coefficients should only be interpreted with care. However, the coefficients of determination, R^2 , still show remarkable low values (0.053 and 0.052, respectively). Thus, from the conducted investigations it cannot be concluded that values determine future online grocery buying to any substantial extent.

7. Summary

In the following, the main findings of this research are emphasized:

Profiles of respondents

- In both Denmark and Sweden, an overwhelming part of the respondents has been online for several years and most respondents are online more than two hours per week. However, more heavy Internet users (7 or more online hours per week) are detected in Sweden than in Denmark
- In Denmark, females are more inclined than males to engage in online grocery shopping. In addition, online grocery buyers are significantly better educated, have higher household incomes, and higher household grocery budgets than non-online grocery buyers. In Sweden, online grocery buyers have a significantly higher household grocery budget than non-online grocery consumers.

Online shopping behavior in general

- When disregarding fast food, flowers, toys, and personal care items more than one third of the respondents have sought online information for each of the remaining products included in the investigation (refer to Table 6 in the text).
- An Intercountry comparison reveals, that in general, both online information seeking and online buying are more widespread in Sweden than in Denmark.
- In both Denmark and Sweden, 5 out of the top 6 ranked products (in relation to online buying) are all classified as search products. From an economics of

information perspective this result suggests that for many online products (i.e. many 'mixed' and experience products) online consumers are simply imperfectly informed and may therefore hesitate to move on to an online buying

Benefits and problems in relation to the online grocery store

- In general, the expectations of non-online grocery buyers towards online grocery buying are probably more negative as compared to the experiences they would obtain if they carry out future online grocery buying.
- One of the main beliefs among the respondents is that electronic shopping can be complicated because of the limited access to feel and see the specific products under consideration.
- The respondents believe that it is relatively easy to make comparisons of online grocery prices.
- The two main advantages associated with the Internet by online grocery consumers are that electronic shopping of groceries saves much time and that online shopping is favourable as it makes the respondents less dependent on opening hours.
- The main disadvantage perceived by non-online grocery respondents is that online grocery buying is less exciting when compared to offline grocery buying.
- Online grocery respondents perceive a high degree of compatibility of online grocery shopping.
- For Danish and Swedish respondents who have already bought groceries via the Internet post-purchase satisfaction is very important when they are considering engaging in future online grocery buying.

Assortment and delivery

- Respondents' assortment requirements seem surprisingly low and can, based on the present results, hardly be regarded as a major obstacle for firms considering launching an online grocery store.
- On average, most Danish and Swedish respondents find it reasonable that a 200-600 DKK/SEK order should be placed to get free packing and delivery. Only few Danish and Swedish consumers find that >600 DKK/SEK would be a reasonable order size to get free packing and delivery.
- On average, the higher the outlay respondents' consider reasonable to get free packing and delivery the more they are willing to pay (in delivery fee) if they place an order worth less this outlay.

Offline shopping behavior

- A high amount of offline shopping planning is carried out among Danish and Swedish consumers.
- Danish and Swedish consumers' offline multi-stop behavior will probably not have to undergo major changes should these consumers choose to engage in online grocery shopping.
- Danish non-online grocery respondents do not face a longer distance to their main grocery shop than do online grocery respondents. For Swedish respondents the results indicate that online grocery respondents may not live as nearby their main grocery shop as non-online grocery respondents do.

Values as possible drivers of online grocery shopping

- From the conducted investigations it cannot be concluded that values determine future online grocery buying to any substantial extent

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