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WHAT DETERMINES THE USE OF BRANDS AND SEALS OF APPROVAL AS EXTRINSIC QUALITY CUES IN CONSUMERS' PORK PURCHASE DECISION?

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Carola Grebitus[*]*, Luisa Menapace*[**] *und Maike Bruhn*[***]

Abstract

In today's saturated food markets with increasingly homogeneous products food quality provides an opportunity for product differentiation. We want to answer the question what determines the use of extrinsic quality cues (brands, seals of approval) in consumers' pork purchase decision. Therefore, we accomplished a consumer survey (n=767) at different German retailers. The results show that consumers' pork purchase at small supermarkets, use of household leaflets to make purchase decisions and modest income level determines the use of seals of approval. Consumers who buy pork at small supermarkets and discounters, and who use household leaflets use brands.

Keywords

Extrinsic quality cues, brand, seal of approval, pork, purchase decision-making, Germany.

1 Introduction

In today's saturated food markets with increasingly homogeneous products food quality provides an opportunity for product differentiation. Quality in actuality refers to aspects of the food product and the basic production process that can be measured and documented in an objective way. But the quality that consumers associate with a food product is often not equivalent to this objective quality evaluation (SCHOLDERER AND BREDAHL, 2004). For consumers, quality is a subjective concept whose association is based on psychological processes (STEENKAMP, 1990). Following CARDELLO (1995) food quality from a consumer's perspective is a perceptual and an evaluative construct which is related to person, place of purchase and purchase situation. Consumers' perception of food quality is a key factor in developing a useful understanding of consumer purchase decision-making (OLSON AND REYNOLDS, 1983). During the decision-making process internal, stored information and external, current information interact to perceive quality (KROEBER-RIEL AND WEINBERG, 2003). Current information resemble intrinsic quality cues such as physical product characteristics and extrinsic quality cues such as price, promotion and packaging. It is provided at the point of sale.

In this paper, the purchase decision-making process is analysed with regard to extrinsic quality cues. In this context, we want to answer the question which quality cues are used to make purchase decisions and further what influences the choice of quality cues in making purchase decisions. This paper deals with German consumers' purchase decisions for pork based on perception of extrinsic pork quality cues. We chose pork as research object because despite the fact that pork is the most consumed meat in Germany and Europe (ZMP, 2006), empirical studies have shown that customers have difficulties in evaluating its' quality (e.g., GRUNERT ET AL., 2004).

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Against this background, a consumer survey (n=767) was conducted in Germany in 2005 interviewing pork shoppers right after their pork purchase at the point of sale in order to gain insights into consumers' use of extrinsic quality cues. The survey aims to investigate especially what determines the use of extrinsic quality cues to make pork purchase decisions. So far, to our knowledge, few studies have analysed what determines consumers' use of extrinsic quality cues to perceive pork quality and make the actual pork purchase decision.

The paper proceeds as follows. In the next section, theoretical background and previous literature related to meat are presented. The third section describes the design of the study and the methodological background. Section 4 presents the results of the consumer survey. In section 5, a summary is given.

2 Theoretical background and empirical application related to meat

When making purchase decisions consumers have to form quality expectations based on their perception and evaluation and on their former experiences (GRUNERT, 2002; BRUNSØ ET AL., 2004). To perceive quality consumers first use pieces of information called quality cues. Those are combined with a number of experience and credence quality attributes of the product (BRUNSØ ET AL., 2004; BREDAHL ET AL., 1998; STEENKAMP, 1990). It is common to differentiate between intrinsic and extrinsic quality cues (NORTHEN, 2000). Intrinsic quality cues refer to physical characteristics of the product such as colour, form, or smell (BECH ET AL., 2001). Extrinsic cues are related to the product without being a part of it, for example, quality labels, e.g. price, brand, or retail outlet (VERBEKE ET AL., 2005). In situations of uncertainty, and this is common in the case of food quality, consumers usually are depending on extrinsic quality cues (TOLLE, 1994; GRUNERT ET AL., 1996). Quality cues resemble NELSON'S (1970) search quality attributes. Food products are only to a limited degree characterised by search quality attributes, they are mainly characterised by experience and to an increasing extent by credence quality attributes (DARBY AND KARNI, 1973). In the case of experience and credence quality attributes, consumers will try to infer the quality from alternative quality cues such as a reliable brand name, seals of approvals or certificates (GRUNERT, 1997).

Empirical studies have shown that consumers have difficulties in evaluating the quality of fresh products in pre-purchase situations. Because fresh products such as fruits and vegetables or meat are mainly sold in bulk, unprocessed and/ or unpackaged (BECH-LARSEN AND GRUNERT, 2001; BREDAHL, 2003). Hence, there is a lack of central quality cues such as brands or packaging. To simplify the quality evaluation of those products, suppliers could begin to offer brands or labels such as seals of approval. But their use for communicating specific quality characteristics has to be related to specific objective product attributes. Suppliers have to turn intrinsic, difficult-to-evaluate product attributes into extrinsic and visible cues (BRUNSØ ET AL. 2004).

With regard to extrinsic quality cues there exist several studies concerning especially labelling. Labelling schemes are all possible ways of providing consumers with information about food products and can improve a consumer's ability to evaluate the quality at the point of sale. In this way, labels such as brands and seals of approval do not only benefit the consumer, but also the supplier who wants to market a product with a specific quality that is difficult for most consumers to ascertain (BRUNSØ ET AL., 2004).

Following IOP ET AL. (2006) consumers use brand names to try to simplify their evaluations and the decision process. However, currently only a few meat purchase decisions are based on the use of brands, which is certainly reasoned by the fact that only few meat brands exist (GREMMER, 2004). Nevertheless, in Germany some meat brands are existent, for instance from food retailers such as Bauernglück, Gutfleisch and Landklasse or from service-oriented businesses such as Neuland (BECKER ET AL., 1997). In this regard, findings by BREDAHL AND

POULSEN (2002) confirm although most pork is sold unbranded, branded meat and meat with quality labels are generally perceived to be of higher quality.

Meat labelling such as seals of approval requires special attention, because it can be an important way of informing the consumer about experience and credence quality attributes (e.g. production methods, origin). Hence, this information could constitute cues to better inform the consumer on credence quality attributes. The information cues for meat considered most important are for example, information on the system of production (e.g. organic, free range), on traceability and on quality control of the meat (MCEACHERN AND SEAMAN, 2005; BERNUEZ ET AL., 2003).

In this context, SCHOLDERER ET AL. (2004) found that consumers expect substantially higher eating quality in pork which was produced in organic and free-range systems. In their study, pork chop samples labelled 'free-range' or 'organic' were consistently perceived to have higher eating quality than pork chops labelled 'conventional' or unlabelled ones. Furthermore, some consumers expect a certain level of traceability and therefore want information on that topic to appear on the packaging of raw meat (GONZALEZ-VINAS ET AL., 2004). In this context, meat industries in some countries have designed quality assurance programmes to satisfy consumers demand for information about the quality of retail meat such as the German QS system, the Danish Ø-marque guidelines and the French 'label rouge' guidelines (BICKERSTAFFE ET AL., 2001).

In this consumer study we choose 'brands' and 'seals of approval' as extrinsic quality cues to be analysed. While so far, studies investigated whether consumers use these kinds of labelling to make purchase decisions or not, we analyse what determines their use to give further marketing implications. As there is a lack of studies that determine whether factors such as income, gender or price level of the product influence the use of certain quality cues, this study takes determinants of the use of extrinsic quality cues into account. For example, one might expect that with an increasing price level of the product more and/ or specific quality cues are used to make the purchase decision to decrease uncertainty. This study aims to investigate the actual purchase decision with data from the point of sale to help the industry to produce products in a way that meets consumers' expectations.

3 Methodological background

3.1 Design of the study

To analyse what determines the use of extrinsic quality cues to make the pork purchase decision a consumer survey was conducted in 2005. The data were collected in a medium-sized town in Germany. The respondents were recruited at five food retailers, namely a discounter, a butcher, a hypermarket, a large supermarket near the centre of the city (Supermarket 1) and a small neighbourhood supermarket in the periphery of the city (Supermarket 2). With regard to the main sources of supply for meat in Germany, the sample shows an over-representation of pork shoppers at supermarkets and discounters and a clear under-representation of pork shoppers at the butcher (BURCHARDI et al., 2007). Nevertheless, these shops are the main retailers for pork (HANSEN et al., 2006). The sample consists of 767 participants. Table 1 presents the structure of the sample.

To interview all different kinds of pork customers, such as housewives who tend to buy during the day and employees who tend to buy in the evening, the survey was carried out for one week during all opening hours. Pork customers were interviewed immediately after the purchase. Interviewees were selected through non-probability convenience sampling (MALHOTRA, 1996). This means that respondents were pork shoppers selected on the basis of the convenience of the interviewer and asked to volunteer as a respondent. This method of sampling does not yield a statistically representative sample, which is an obvious limitation to

the study and limits generalisation of the findings to the broader population. Nevertheless, the sample covers a wide range of consumers in terms of socio-demographics and behaviour, though with an over-representation of female participants. The survey was accomplished using questionnaire-based face-to-face interviews. However, it should be mentioned that the total sample size for each of the five different retail outlets is unequal. This is to be kept in mind when interpreting the results.

Table 1: Structure of the sample (in %)

	Total	Super-market 1	Super-market 2	Discounter	Hyper-market	Butcher
Female	61	52	76	55	65	64
Male	39	48	24	45	35	36
<34 years old	33	55	20	60	15	16
35 – 45 years old	19	15	19	13	23	8
46 – 55 years old	17	12	25	8	20	28
56 – 65 years old	16	6	19	12	23	20
> 65 years old	15	12	18	8	19	28
Low Education	24	12	15	11	39	16
Modest Education	28	19	40	17	35	36
High Education	32	49	29	54	15	28
Very High Education	14	19	17	16	8	20
No Answer/Others	2	0	0	1	4	0
Household Net Income €						
< 400	10	15	2	19	7	4
400 – 800	16	30	7	25	7	12
800 – 1300	14	18	10	14	14	8
1300 – 1800	14	18	10	14	14	8
1800 – 2300	14	11	19	7	18	12
> 2300	18	13	23	10	21	36
%	100	27	12	15	43	3
N total	767	207	91	118	325	25
Germany, BURCHARDI ET AL., 2007 (in %)		15		20	40	19

3.2 Bivariate probit model

To analyse what determines the use of the extrinsic quality cues 'brand' and 'seal of approval' a bivariate probit model was applied to the data from the consumer survey. In this case the use of 'brand' and 'seal of approval' are the binary dependent variables. In contrast to the univariate probit the bivariate probit accounts for the possibility that the utilisation patterns might be correlated: consumers who use brands frequently might be more (or less) likely to frequently use seals of approval.

Consumers' satisfaction derived from using brand/ seal of approval depends on measurable factors including price, point of sale and their socio-demographics (e.g. gender). The bivariate probit model yields estimates of parameters on these product and consumer characteristics, and the correlation between the utilisation of the two quality cues. The specification of the model is

$$U_i^{Brand} = X_i'\alpha^{Brand} + \varepsilon_i^{Brand}, y_i^{Brand} = 1 \text{ if } U_i^{Brand} > 0, y_i^{Brand} = 0 \text{ otherwise}$$

$$U_i^{Seal} = X_i'\alpha^{Seal} + \varepsilon_i^{Seal}, y_i^{Seal} = 1 \text{ if } U_i^{Seal} > 0, y_i^{Seal} = 0 \text{ otherwise}$$

$$E[\varepsilon_i^{Brand} \mid X] = E[\varepsilon_i^{Seal} \mid X] = 0;\ Var[\varepsilon_i^{Brand} \mid X] = Var[\varepsilon_i^{Seal} \mid X] = 1;\ Cov[\varepsilon_i^{Brand}, \varepsilon_i^{Seal}] = \rho \quad (1)$$

where $i = 1, \cdots, 767$; the term U_i^j is the latent unobservable benefit for consumer *i* derived from using *j* type of cue (brand or seal of approval); y_i^j is the observed utilisation with y_i^j =1 meaning consumer *i* actually uses the cue and y_i^j =0 meaning consumer *i* does not use the cue; *j=Brand, Seal* with *Brand* meaning quality cue Brand and *Seal* meaning quality cue Seal of approval; ε_i^j's are the random disturbance terms and they are assumed to follow bivariate normal distribution with mean zero, standard deviations equal to one and correlation between ε_i^{Brand} and ε_i^{Seal} equal to ρ, which is to be estimated; α^j is the vector of coefficients to be estimated; and X_i is a vector of explanatory variables including product attributes such as packaging, point of sale and socio-demographic characteristics. The bivariate probit model is estimated via maximum likelihood.

4. Results

To investigate the use of brands and seals of approval in consumers' pork purchase decision, the following determinants were chosen as independent variables,

- price level of purchased pork cut,
- point of sale where the pork was purchased,
- packaging of the purchased pork,
- sources of information used to make this pork purchase decision,
- socio-demographics.

4.1 Descriptive results

Use of extrinsic quality cues

At first the participants, i.e. actual pork customers, were asked to evaluate their utilisation of the extrinsic quality cues 'brand' and 'seal of approval' within the decision-making process (see Table 2). Firstly, the respondents had to answer with 'yes' or 'no' whether they had used a certain brand for their purchase decision or not (use of cue). 11% answered that they used a brand / seal of approval (16%) to make the pork purchase decision. To confirm that they really had used the quality cue for their pork purchase decision, they had to answer an open question in the second step, such as 'Which brand, i.e. seal of approval carried your purchased pork?' (knowledge of cue). The results show that only 9% could answer this question for brands and 7% for seal of approval.

Table 2: Use of extrinsic quality cues (in %)[1]

	Brand	Seal of Approval
Participant states to use the cue	11	16
Participant actually knows the cue	9	7

Interestingly the number of participants stating the use of brands is closer to the actual knowledge of brands (assumed to be the real use) than the use of seals of approval. Less than 50% of the participants could name the seal of approval. This leads to the conclusion, that consumers did not really use the seal of approval for their purchase decision. However, the number of participants that really use brands and seals of approval is almost even. Nevertheless, we have to state that we did not control for participants who used both at the

[1] Questions in the questionnaire: 1. Did the pork you purchased carry a certain brand/ label of a certain processor (seal of approval)? / 2. Which brand/ label of processor (seal of approval) carried your purchased pork?

same time and we did not control whether the products really carried both labels at a time. In the further analysis, these variables will be the dependent variables.

The independent variables that are assumed to determine the utilisation of the labels to make the pork purchase are price level, packaging, sources of information, point of sale and socio-demographics. They are described in detail in the following.

Price level of purchased pork cut

To analyse the impact of the pork's price level on the use of extrinsic quality cues for purchase decision-making, the pork shoppers had to state what kind of pork cut they had bought. According to LITTMANN ET AL. (2006) cuts are generally categorised into high-price (e.g. steak, smoked pork chop, chop, tender loin, cutlet), modest-price (goulash, jaw, loin ribs) and low-price pork cuts (ground pork). 53% of the interviees bought high price cuts, 10% purchased modest price cuts and 42% bought low price cuts. 15% did not fit into these categories. It is interesting to note that the consumers preferred to buy high-price or low-price pork rather than modest-priced pork. One might expect higher involvement for more costly cuts such as tender loin and thus an increasing use of quality cues for pork purchase decisions (IOP ET AL., 2006; VERBEKE AND VACKIER, 2004).

Packaging of purchased pork

Furthermore, the impact of the kind of packaging of the purchased pork on the utilisation of extrinsic quality cues to make the pork purchase decision was questioned. 50% of the participants stated that they bought their pork at the counter. 47% bought their pork from the cooler. Only 3% purchased their pork from the freezer. These results are in line with market data regarding meat purchase of German private households. The market data indicate that 53% purchase from the counter, while 43% purchase their meat from the cooler and 4% from the freezer (ZMP, 2006, 17). However, it should be noted that while consumer state to prefer the counter (GREBITUS, 2008) almost one half buys pork from the cooler. The reasons therefore might be that pork from the cooler may be cheaper and more convenient. Note, there was no counter in the discounter.

Sources of information influencing pork purchase

To analyse the impact of the source of information on the utilisation of extrinsic quality cues to make the pork purchase decision, the interviewees had to report which of the sources presented in Table 3 they additionally used to make purchase decisions. The results show that advertisements, household leaflets and displays at the counter are mostly used. In-store radio for example was not at all used by respondents. So far from a marketing perspective the results suggest that information consumers receive at home are most efficient to influence their pork purchase behaviour followed by certain activities in the shop such as displays and sale signs.

Table 3: Information sources used for decision making regarding the pork purchase (in %)

Advertisement	Display at Counter (For Sale in Shop)	Household Leaflet	Service/Suggestions at Counter	In-store Signs	In-Store Radio
15	12	11	2	2	0

Point of sale

Furthermore, the impact of the point of sale where the pork was purchased and the impact of the socio-demographics were investigated with regard to the utilisation of extrinsic quality cues to make the pork purchase decision (see Table 1).

In the following, Table 4 shows the dependent and independent variables included in the bivariate probit analysis.

Table 4: Definition of variables

Dependent Variables	**Definition**	**Mean**	**Std.-Dev.**
Brand	Dummy variable equals one if consumer used the brand to make the pork purchase decision. 0 otherwise.	0.09	0.28
Seal of Approval	Dummy variable equals one if consumer used the seal of approval to make the pork purchase decision. 0 otherwise.	0.07	0.25
Independent Variables	**Definition**	**Mean**	**Std.-Dev.**
High Price Pork Cut	Dummy variables equal to one if purchased pork was high / modest pork cut. Low price pork cut dropped due to multicollinearity.	0.44	0.50
Modest Price Pork Cut		0.11	0.32
Hypermarket	Dummy variable for each point of sale equal to one if meat was purchased in a particular store. Butcher dropped due to multicollinearity	0.42	0.50
Large Supermarket		0.27	0.44
Small Supermarket		0.12	0.32
Discounter		0.15	0.36
Cooler	Dummy variables equal to one if purchased pork was from cooler / counter. Freezer dropped due to multicollinearity.	0.47	0.50
Counter		0.50	0.50
Household Leaflet	Dummy variables equal to one if participant used particular source of information (promotional activity) to make the pork purchase decision. Multiple nominations possible. In-Store Radio dropped due to multicollinearity.	0.12	0.38
Advertisement		0.15	0.36
For Sale in Shop		0.12	0.33
Advice		0.02	0.15
In-Store Signs		0.03	0.16
Gender	Dummy variable equal to one if participant is female.	0. 61	0.49
Age in Years[a]	Age of the consumer (integer years).	45.62	16.99
Household size	Number of persons in the household	2.35	1.15
Kids in household	Dummy variable equal to one if kids in household.	0.30	0.46
Low Education	Dummy variables for every category. Low if consumer has 9 years of school education. Modest if consumers has 10 years of school education. High if consumer has 12 and more years of school education. Very high if consumer has some college education. Very high education dropped due to multicollinearity.	0.24	0.43
Modest Education		0.29	0.45
High Education		0.32	0.47
Y< 400 EUR	Monthly household net income. Dummy variables for every category. Income 1300-1800 EUR dropped due to multicollinearity.	0.10	0.30
Y400-800 EUR		0.16	0.37
Y800-1300 EUR		0.14	0.35
Y1800-2300 EUR		0.14	0.35
Y > 2300 EUR		0.18	0.38

The factors influencing the utilisation of the extrinsic quality cues brand and seal of approval to make the pork purchase decision are measured using these determinants. It is for example assumed that if the price is at a high level compared to a modest and low level, then extrinsic quality cues are used to make the purchase decision to lower their purchase-uncertainty (IOP ET AL., 2006; VERBEKE AND VACKIER, 2004).

4.2 Results of the econometric analysis

Turning to the results of the econometric estimation a bivariate probit model was estimated with ‘brand’ and ‘seal of approval’ as binary dependent variables. In the following, the results

for the particular models are discussed. As independent variables the bivariate probit model incorporates price level, packaging, sources of information, point of sale and socio-demographic variables as determinants of consumers' utilisation of brand/ seal of approval. The estimation results are reported in Table 5.

Table 5: Results of the bivariate probit model

	Brand				Seal of Approval			
	Coef.	Std. Err.	z-value[a]		Coef.	Std. Err.	z-value[a]	
High Price Pork Cut	0.149	0.159	0.94		0.182	0.165	1.10	
Modest Price Pork Cut	0.342	0.250	1.37		-0.044	0.272	-0.16	
Purchase at Hypermarket	-0.693	0.539	-1.29		0.087	0.452	0.19	
Purchase at Large S-market	0.007	0.510	0.01		0.372	0.451	0.82	
Purchase at Small S-market	1.024	0.502	2.04	**	1.061	0.451	2.35	**
Purchase at Discounter	1.088	0.547	1.99	**	-0.509	0.629	-0.81	
Pork From Counter	0.026	0.459	0.06		-0.339	0.450	-0.75	
Pork From Cooler	0.092	0.412	0.22		-0.786	0.449	-1.75	*
Household Leaflets	0.648	0.235	2.76	***	0.329	0.166	1.98	**
Advertisement	-0.424	0.318	-1.33		-0.240	0.256	-0.94	
'For Sale' in the Shop	-0.456	0.359	-1.27		-1.021	0.409	-2.50	**
Advice, e.g. at Counter	-0.364	0.613	-0.59		1.050	0.388	2.71	***
In-Store Signs	-0.433	0.569	-0.76		0.013	0.528	0.02	
Gender	0.069	0.168	0.41		-0.224	0.171	-1.31	
Age in Years	-0.003	0.006	-0.56		0.016	0.006	2.59	***
Household Size	-0.008	0.099	-0.08		-0.146	0.125	-1.17	
Kids in household	-0.159	0.262	-0.61		0.069	0.281	0.24	
Low Education	-0.071	0.306	-0.23		-0.570	0.287	-1.98	**
Modest Education	0.364	0.248	1.47		-0.254	0.237	-1.07	
High Education	0.107	0.241	0.44		-0.447	0.256	-1.75	*
Income < 400 EUR	-0.512	0.339	-1.51		0.574	0.335	1.71	
Income 400 – 800 EUR	-0.104	0.245	-0.42		0.314	0.280	1.12	
Income 800 – 1300 EUR	-0.044	0.243	-0.18		0.555	0.243	2.29	**
Income 1800 – 2300 EUR	-0.203	0.233	-0.87		-0.178	0.253	-0.70	
Income > 2300 EUR	-0.234	0.260	-0.90		0.291	0.238	1.22	
Constant	-1.717	0.778	-2.21	**	-1.612	0.789	-2.04	**
Rho	0.634	0.106	0.381					

[a]Level of significance: ***p<0.01; **p<0.05; *p<0.10. n=751.

Wald χ^2 (50) = 126.72 (p = 0.000), Log pseudo-likelihood = -304.03. Rho: χ^2 (1) = 22.637 (p = 0.000)

The table rows display the independent variables. The columns report the estimated coefficients, standard errors and the respective z-values of the bivariate probit model explaining utilisation of labels for making pork purchase decisions. The whole estimation is significant based on likelihood ratio tests.

Brands

To analyse the determinants of brand utilisation with regard to pork purchase decisions, participants were asked whether they knew the brand of the pork they had bought. In the literature, brand is considered to be a rather unimportant quality cue. Only few meat brands exist and results by GREBITUS (2008) show that consumers think brands are most unimportant as a quality cue to make the purchase decision. Nevertheless, uncovering determinants of the

actual use of brands might reveal opportunities to develop successful brands. In the survey, it was found that 9% of the participants actually used it to make their purchase decision. Taking this as a dependent dummy variable (1 if consumer knows the brand of the purchased pork, 0 otherwise) it was included in the bivariate probit model.

The results in Table 5 show that consumers are more likely to use brands as a quality cue if they

- purchase pork at small supermarkets and discounters,
- use household leaflets to make a purchase decision.

There are no significant negative results to state.

Overall, the results show that socio-demographics have no effect. The significant positive effect of pork purchase at discounters on the use of brands as a quality cue might be explained by the fact that almost no salespersons are available at discounters. Hence, consumers need to rely on other information to build a quality judgment. In this case, they would use brands. Furthermore, it is an indicator of successful and strong brands created by discounters underlined by the fact that hypermarket shows a negative effect even if not on a significant level (several hypermarkets do not sell any branded pork). Discounters demonstrate that it is possible to build strong brands in the meat sector by the use of the marketing mix. The communication policy reveals a steady advertisement of the meat brand. The product policy guarantees that the same quality is always available. The price policy sets a higher price than unbranded meat but lower price compared to supermarkets and hypermarkets and the distribution policy enables branded meat to be sold at all points of sale of the particular discounter and not only in specific regions.

Seals of approval

To analyse the importance of seals of approval with regard to pork purchase decisions, participants were asked whether they knew the seals of approval of the pork they had bought or not. In the literature, seals of approval are considered to be rather unimportant quality cues. Nevertheless, uncovering determinants of the actual use of a seal of approval might reveal opportunities to develop successful seals of approval, i.e. labels. In the survey, it was found that 7% of the participants actually used it to make their purchase decisions. Taking this as a dependent dummy variable (1 if consumer knows the seals of approval of the purchased pork, 0 otherwise) it was included in the bivariate probit model.

The results in Table 5 show that consumers are more likely to use seals of approval as a quality cue if they

- purchase their pork at small supermarkets,
- use household leaflets to make purchase decisions,
- ask for advice in store, e.g. at the counter,
- are older customers,
- have a modest income level (800 – 1300 EUR).

The results show that consumers are less likely to use seals of approval as a quality cue if they

- purchase pre-packaged pork from the cooler instead unpackaged from the counter,
- purchase pork which is on sale in the shop,
- have a low education level or high education level.

Overall, one research objective was to investigate how the socio-demographics influence the use of seals of approval. The results show that socio-demographics have a strong effect. Furthermore, communication activities show an effect on the use of seals of approval. Thus, it might be useful to enforce the display of seals of approval in creating household leaflets. Furthermore, it seems that these customers are information seekers, as they ask for advice as

well. Special brochures with information on quality signals could be an opportunity to reach these customers and increase their satisfaction when purchasing pork.

5 Summary

In this paper determinants of the use of the extrinsic quality cues 'brand' and 'seal of approval' in consumers' pork purchase decision were analysed. While most studies refer to perception and evaluation only we take into account what determines the actual use of extrinsic quality cues.

The results show that 16% utilised a seal of approval and 11% used a brand to evaluate the quality of the purchased pork. However, only 9% (brand) / 7% (seal of approval) actually had knowledge about the extrinsic quality cue their purchased pork carried, meaning they actually used it to make their pork purchase decision. Hence, only a rather small percentage of customers uses these labels to make purchase decisions. However, our study investigated the determinants on the use of the quality cues for pork purchase decision-making. This enables acteurs in the agribusiness to take actions regarding e.g. marketing activities to enforce the use of these labels, i.e. make them more efficient as marketing instruments. With regard to brand the results suggest that consumers who buy pork cuts at small supermarkets and discounters, and who use household leaflets to make purchase decisions are more likely to use this extrinsic quality cue. Moreover, the results indicate that the extrinsic quality cue seal of approval is used by consumers that purchase their pork at small supermarkets, use household leaflets to make purchase decisions, ask for advice in the store, e.g. at the counter, and are rather elderly with a modest income level. If consumers purchase pre-packaged pork from the cooler, which is on sale in the shop, consumers are less likely to use a seal of approval as a quality cue.

After examining what determines the use of extrinsic quality cues, future research could investigate consumer segments regarding the use of extrinsic quality cues. Furthermore, determinants of the use of intrinsic quality cues could be investigated. In the long run strategies could be developed to use extrinsic as well as intrinsic quality cues more efficiently for marketing activities. As mentioned before so far not too many brands exist for pork and most of them are not too successful. Hence, the future development of a strong, successful pork brand could be another starting point.

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