


# Chapter 12

## Food Retail in the Rural Periphery Using the Example of Germany: Identifying Success Factors

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### ABSTRACT

*Using a mixed-method approach, the author documents processes of decline in food retail on the spatial meso-scale of a northern German federal state and investigates the attitudes and patterns of demand of households dealing with the loss of local retail. Cluster and discriminant analysis are used to identify five relevant sub-groups, all of which are characterised by an ongoing discourse concerning the local retail structures. The five sub-groups define their (dis)interest in local retail using very different spatial, temporal, and substantial criteria. These criteria are drawn upon by local retailers to develop strength and weakness profiles and identify learning potential in an attempt to use innovative forms of niche marketing to better attract non-users or minimal users. Expert interviews with village shopkeepers and local producers of fresh goods indicate which solutions are being implemented to secure the commercial success of rural local retail in the long term and to distinguish such retail from the offerings of ubiquitous chains of supermarkets and discounters.*

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## **INTRODUCTION**

Throughout the world, it is possible to observe that the spatial distribution of food retail formats is becoming increasingly unequal in terms of sales area, quantitative range and quality of goods. This has led to the development of a multidisciplinary discourse on the emergence and consequences of food deserts, which involve the depletion of food supply structures and create disadvantaged population groups. The following paper builds on and reinterprets this approach, presenting food deserts not only as real and reified spaces with retail locations and patterns of distribution, but (also) as the result of mental structures and basic beliefs that contribute towards diverse retail formats being favoured or, indeed, certain formats being avoided even if they are the last local source of retail supply. The research is based on qualitative and quantitative empirical investigations in rural regions of the state of Schleswig-Holstein (Germany) which include residential households and shopkeepers. It is demonstrated that several of the village shops and local producers are focusing on the concept of a food oasis of 'fresh' products and are confirmed in this by selected customer clientele, rather than food deserts developing in this situation. Other consumers re-interpret local retail, looking beyond their place of residence and failing to use local supply structures to an extent that would enable local shops to survive as viable businesses. The aim here is to use psychographic segmentation to achieve a more complex picture of the preconditioning of customers towards retail formats than is possible using only traditional socio-demographic filters. From this, strengths and weaknesses in the learning and adaptation processes of local retailers are derived in an attempt to change the consolidated attitudes of their (non-)customers in the long-term.

## **BACKGROUND AND AIMS**

Since the 1990s there has been a clear increase in research interest in the spatial inequality of food supplies and food retail formats, right down to the micro- and meso-scales. In the 1970s and 1980s the discussion focused rather on food insecurity, hunger, production, growth in the world's population and declining natural resources, a discussion that adopted a global perspective and was primarily anchored in the global South (Maxwell, 1996). In contrast, in the global North and its so-called developed industrial and service societies, attention is increasingly directed towards country-wide, comprehensive, 'fair' and alternative supplies of food on the local scale (Wrigley, 2002; Bitto, Morton, Oakland, & Sand, 2003). In recent decades innovative retail formats like supermarkets, discounters, self-service department stores and shopping centres have spread globally (Reardon, Timmer, Barrett, &

Berdegue, 2003; Nandonde, & Kuada, 2018). These retail formats target customers with cars and focus on growth in floor space, diverse ranges of goods, quality of the shopping experience and the coupling of different retail, gastronomic and service offerings. The visible results of these developments are processes of displacement and depletion that particularly affect traditional, labour-intensive, owner-run and non-chain shops with limited floor space and underdeveloped technology, shops that are often close to residential areas and can be reached by foot. This is because the mobility patterns and retail demands of many customers have changed and there is no longer sufficient demand for convenience stores (Coca-Stefaniak, Hallsworth, Parker, Bainbridge, & Yuste, 2005). In Germany alone the number of businesses in food retail has declined by about 75% to 38,600 units within 50 years (1966-2013) (Deutscher Bundestag, 2015: 3).

Corresponding processes of retail depletion have been analysed by spatial scientists, regional planners and geographers in rural and occasionally in urban areas (Donkin, Dowler, Stevenson, & Turner, 1999; McEachern, & Warnaby, 2006; Paddison, & Calderwood, 2007; Bastian, & Napieralski, 2016). In the context of classical central place theory (Christaller, 1933), retail outlets with central supply functions are identified as places where economic and social services are bundled and thus express local quality of life, either as perceived by the local residents or as normatively defined by planning and policy. In the global North, demographic processes involving the shrinking and aging of the population and an increase in the proportion of single-person households exacerbate the situation (Sthienrapapayut, Moschis, & Mathur, 2018; Matsumoto, Igarashi, Suzuki, & Yamamoto-Mitani, 2019), making it even harder for traditional retailers to survive in competition with supermarkets and discounters with their superior operational logistics and economies of scale. Food-related lifestyles based on regionality, organic goods, and ethnic and ethical products cause further segmentation of demand in the food retail market (Hallsworth, 1991; Bahng, & Kincade, 2014; Witzling, & Shaw, 2019) so that a basic product range is seldom sufficient to guarantee the long-term commercial survival of a retail outlet. In addition, the population and thus number of potential customers are shrinking in certain regions: by 2019 migration and excess mortality in eastern Germany had caused the population here to decline to the level of 1905 (Rösel, 2019).

The effects of spatial and social marginalisation have also been described with reference to other European and North American regions, where facilities catering (not only) for food retail for particularly vulnerable (immobile, elderly, socially and economically poor) groups have deteriorated (Guy, & David, 2004; Gordon et al., 2011; McKenzie, 2014; Thibodeaux, 2016; Amcoff, 2017). On the other hand, it does not follow that the last remaining shops are actually utilised, indeed potential customers may have a range of reasons for avoiding them, such as a lack of loyalty to

the retailer, perceived higher prices or insufficient product quality, a lack of parking spaces and an overly limited range of goods.

This led to the terminological conceptualisation and the development and consequences of so-called food deserts, which first became the subject of research in Anglo-American countries, later also in other areas (Mosammam, Sarrafi, Tavakoli, & Mosammam, 2017; Helbich, Schadenberg, Hagenauer, & Poelman, 2017). Food deserts are identified as geographical areas in which potential customers are unable to find sufficient supplies of fresh, healthy and affordable food within an acceptable distance by foot or by car and where residents may thus be subject to statistically significant health impairments. Especially in the USA, areal census data is used to correlate socio-demographic and socio-economic indicators on the household scale or patterns of ill health with local retail supply structures (Wilcox et al., 2018). Various authors have carried out accessibility studies that use Geographical Information Systems (GIS) to visualise the temporal and financial burden of food shopping (Russell, & Heidkamp, 2011; Horner, & Wood, 2014; McKenzie, 2014). Such representations form the basis of planning and policy interventions that support the establishment of supermarkets as local food oases (Bridle-Fitzpatrick, 2015) intended to provide a counterbalance to the ‘unhealthy’ product ranges of so-called convenience stores and their pre-packaged, prefabricated, take-away and fast food products.

Critical research counters this oversimplification: it is not only objective personal indicators such as age, gender, income, education or ethnicity that determine who shops where, when and how much but also subjective factors such as perceptions, attitudes and lifestyle concepts (Grunert, 1990 and 1993; Grzeskowiak, Sirgy, Foscht, & Swoboda, 2016). Thus socio-demographic customer segmentation may not be consistent with psychographic segmentation.

The latter issue has not thus far been tackled by the food desert discussion. Medical and nutritional research on food deserts has not considered the diversity of customer perspectives or parameters influencing the commercial success of retailers and producers. Classical investigations of behavioural psychology have already demonstrated that different attitudes and perceptions can also be expressed in significantly different types of behaviour, even allowing the actions of psychographically segmented population groups to be statistically ‘predicted’ (Kraus, 1995; Maggioni, 2016). Marketing research in particular uses this predictive potential to investigate the compatibility of supply and demand groups (Seitz, 2015). This gives rise to the following questions for the present investigation, which aim to combine spatially relevant criteria as they manifest themselves in the development, size and extent of food deserts with mental structures and correlated customer behaviour:

**Question 1:** How can the conception of food deserts be extended beyond standards of facilities and accessibility to include the attitudes and perceptions of relevant groups?

**Question 2:** Does actual shopping behaviour reflect different attitudes and perceptions?

**Question 3:** To what extent are alternative retail formats other than supermarkets and discounters accepted by customers as providing food retail close to places of residence?

**Question 4:** What potential lessons and niches for retailers and producers of fresh goods can be derived from this, enabling them to win over those whose attitudes and shopping behaviour leads them to be non-customers or minimal customers?

**Question 5:** Who comprises the customer groups that are open to alternative local retail and those that are indifferent to such supply structures?

## **FOOD DESERTS: A CASE STUDY**

Empirical and systematic investigations in the state of Schleswig-Holstein demonstrate the potential for transferring the food desert discussion to the German context. Here the focus is particularly on the infrastructural depletion of large and contiguous (often rural) regions that are affected by the current and pending impacts of demographic transformation, whether this is in the form of a loss of public (local transport, administration, schools), semi-public (building societies) or private services (gastronomy, retail, doctors' surgeries). This challenges fundamental concepts of quality of life and the basic consensus in planning concerning 'equivalent living conditions' in Germany. Structural data confirm the retreat of retail from the area, which paradoxically does not mean that retail space is shrinking throughout the country but rather that retail is becoming more concentrated and less equal on a small scale. It is primarily the supermarkets and discounters that profit from this development. They generally locate in population centres down to the size of rural central places, leaving the customer potential in the spaces between such locations to village shops – although the pulling-power of the large chains can deprive even these shops of the chance of survival. Convenience stores with their largely negative connoted range of goods as seen in the North American food desert discussion do not fill the supply gaps for regular food shopping in rural Germany, for instance in the form of kiosks or petrol station shops. It has become correspondingly time consuming in many parts of Germany to access (from the place of residence) a 'comprehensive' food shop. This is not to imply that the remaining village shops do not provide 'healthy' supplies (often working together with farm shops and

selling their fresh products), but due to the limited range of their goods and a lack of customer loyalty they struggle to survive as viable businesses.

The unequal distribution of food retail outlets in the most northern of the German states can be seen in Table 1. The very small-scale administrative structure of 1,116 municipalities allows food retail facilities to be located and mapped close to places of residence and correlated with local population figures. Over 20% of the population in Schleswig-Holstein lives in municipalities that do not possess a single adequate food shop (anymore). An adequate food shop is defined as a walk-in, self-service shop with a basic range of non-perishable and fresh food products. In rural areas this is often a so-called small supermarket, seldom part of a chain, with less than 400 m<sup>2</sup> of retail space. There is no choice of different shops or retail formats linked to this definition. In 2018 more than five adequate food shops (including small shops) existed in only 3.2% of all municipalities (usually larger towns). Focusing on municipalities with more than five larger food shops, it can be seen that the proportion of municipalities with such a choice declined from 3.7% to 3% between 2012 and 2018. This implies a gradual decline in competition between suppliers and in alternative retail options for customers.

A number of rural municipalities in Schleswig-Holstein were selected for detailed empirical analysis, investigating whether food deserts exist here, if so for whom they exist, and where there are small-scale shops beyond the world of large supermarkets and discounters. At the time of the investigation, 2015-2017, all these municipalities were experiencing discourses concerned with the depletion, loss or reestablishment of local retail. The case studies are shown in Figure 1. Information was collected through the systematic inspection of local press reports (especially in the newspaper Schleswig-Holstein-Zeitung). The local discourses meant that sufficient support of empirical investigations could be expected from municipal institutions, retailers and private households. The population size of the case study municipalities varies between 350 and 2,000 residents. Only three case-study municipalities can be termed peri-urban due to their location near the city of Kiel (Probsteierhagen and Neuwittenbek) and near the medium-sized town of Rendsburg (Borgstedt). The location of all the other municipalities allows them to be described as rural and peripheral (10-15 minutes by car to larger central places). Figure 2 shows an example of the GIS-cartographical visualisation of the depletion of rural local retail. The depiction of travel time by car of up to five minutes and up to ten minutes from the supermarkets and discounters clearly shows the high travel time required for households to go food shopping from their place of residence in the municipality of Gülzow. The village shop in Gülzow was forced to close in 2017.

*Table 1. Municipalities and proportion of population with active food retail outlets in Schleswig-Holstein; total number of municipalities = 1,116 (figures in %); population: 2,836,378*

	2012	2015	2018
Number of municipalities with 0 supermarkets/large supermarkets/discounters	890 (79.6)	887 (79.5)	890 (79.7)
Population affected	596,483 (21.0)	587,883 (20.7)	598,073 (21.1)
Number of municipalities with 0 small shops/supermarkets/large supermarkets/discounters	NA	796 (71.3)	812 (72.8)
Population affected	NA	483,991 (17.1)	507,862 (17.9)
Number of municipalities with over 5 supermarkets/large supermarkets/discounters	41 (3.7)	36 (3.2)	33 (3.0)
Population affected	1,409,983 (49.7)	1,326,739 (46.8)	1,295,684 (45.7)
Number of municipalities with over 5 small shops/supermarkets/large supermarkets/discounters	NA	40 (3.6)	36 (3.2)
Population affected	NA	1,355,411 (47.8)	1,312,981 (46.3)

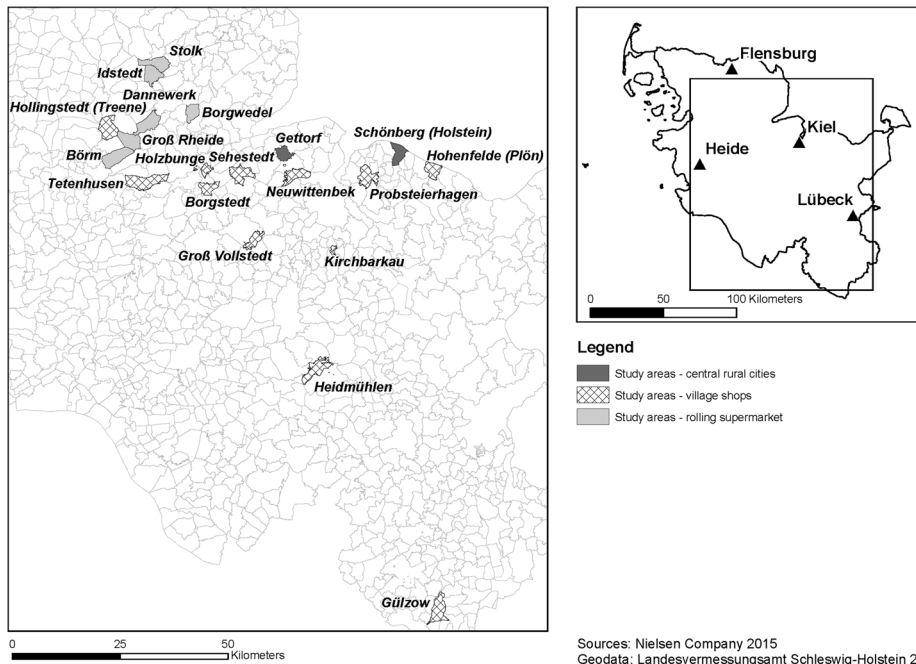
Source: Data Nielsen Company, 2012, 2015, 2018. Small supermarket up to 399 m<sup>2</sup> retail space; supermarket 400-799 m<sup>2</sup> retail space; large supermarket 800-1499 m<sup>2</sup> retail space; all food discounters; basis demographic data, 2011 (Statistikamt Nord); bakers, butchers and other small formats are not included.

## METHODOLOGY

The data is drawn from the author's surveys, conducted between 2015 and 2017 in rural municipalities and central places in Schleswig-Holstein. In several municipalities surveys were carried out more than once, other municipalities were later included in the sample due to the development of discussions on the closure of local shops. In a project funded by the German Research Foundation the municipalities serve as case studies for the identification of food deserts. These food deserts can, on the one hand, be captured as 'objective' bounded spaces based on 'acceptable' levels of accessibility (Figure 2). On the other hand, they can be understood in terms of 'subjective' patterns of attitudes through which conspicuous structures of use and shopping avoidance in the form of group-specific action spaces emerge. Overall three quantitative and anonymised survey campaigns were held. The questionnaire consisted of six pages and four sets of questions:

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Figure 1. Research areas for rural local retail in the state of Schleswig-Holstein, 2015-2017



- A. on the importance of different retail formats when purchasing food, approaches to food, the importance of services in the food retail sector, and the emotional significance of food shopping;
- B. on accessibility, the point of origin (home, work) for food shopping trips, the locations of regular shopping,
- C. on the specific local food retail facilities of the place of residence; and
- D. on the socio-demographic structures of those surveyed and their households. The number of attitudes surveyed under Question A was limited to 40 to minimise refusals or incomplete sets of answers from those surveyed. The topic was supplemented by questions concerning shopping behaviour and geographical catchment areas so as to correlate shopping attitudes with factual and spatially relevant and variable behaviour.

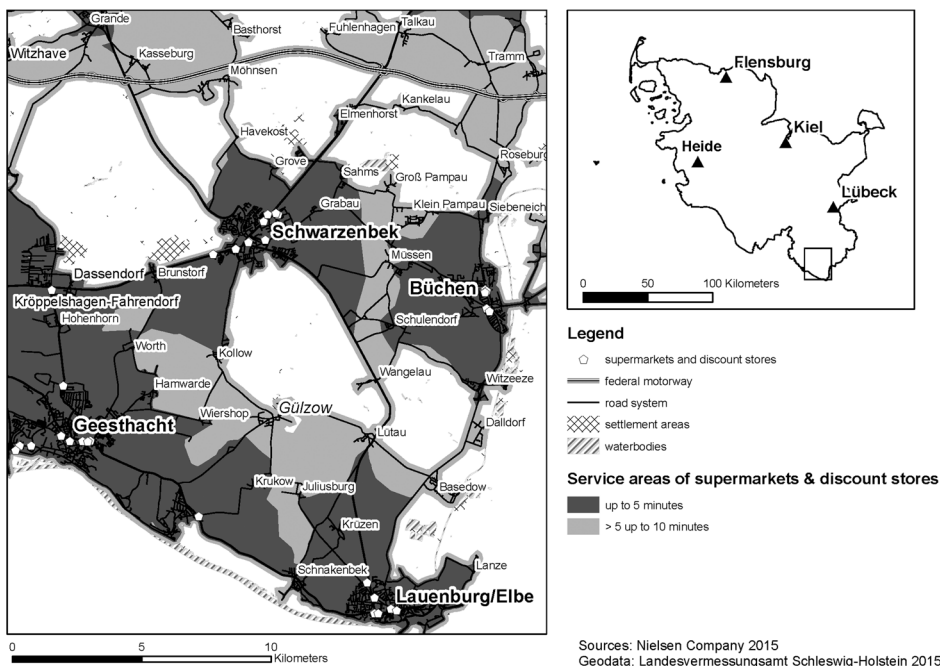
The response rate of the postal questionnaire was c.20% with a total of 1,963 completed questionnaires suitable for evaluation. The questionnaires were distributed to all residential households with the help of local delivery agents and selected collection points were identified. This enabled the inclusion of customers of local

retail outlets as well as non-customers. In several municipalities prize competitions were organised to offer material incentives in order to improve the return rate of the questionnaires. Information provided in local newspapers and consultation with the mayors were intended to make local residents aware of the survey in advance. All the municipalities were aggregated using cluster and discriminant analyses and evaluated with the help of the software SPSS23. The municipalities were aggregated because they experienced similar developments and discourses concerning food supplies and saving local shops. The specific contextual characteristics of the municipalities in the form of location, size, population structure or varying length of experience with local retail are not included in the statistical probability analysis. The sub-samples of the individual municipalities are too small for quantitative analysis. In several cases it would have been necessary here to conduct a full survey to achieve the necessary minimum size of sample (error rate 5%; N=384).

Semi-structured, dialogue-based **expert- and focus group discussions** were held using semi-standardised guidelines to allow developments and perception patterns to be more thoroughly and contextually investigated than is possible using

*Figure 2. Service areas by car of supermarkets and discounters for the case-study municipality Gülzow*

*Source: author's draft; drawn up using ESRI-ArcGIS10.3*



quantitative analysis. Expert interviews (in some cases more than once with the same person) were carried out with retailers and the producers of fresh products supplied to local food shops. Group discussions were held with residents from ten municipalities in order to analyse their understanding and support of local food retail and convenience shopping, their interest in food products and the attractiveness of supplies. All group discussions could be recorded as audio files and minutes were kept of diverse expert interviews.

## **Results: On the Demand Side**

With the aid of a combined cluster (K-means-Cluster, pairwise deletion) and discriminant analysis 1,336 useable cases were divided into five significantly different groups of attitudes. 28 of 40 of the items surveyed were included in the calculation (see Table 6 as Appendix for a complete overview of the statements surveyed), because they have discriminant significance. 93.5% of the originally grouped cases were correctly classified. Wilks-Lambda values underlined the significance of the categorisation into groups. The interpretation and naming of the groups was drawn from a combination of sets of attitudes (see Table 7 as **Appendix**) and socio-demographic criteria, as seen in Table 2.

- **Group1=The Immobile (N=162):** Car use is less significant than average (Table 2). The importance of food shopping close to the place of residence is emphasised. In the self-assessments discounters and supermarkets are not viewed as being at the focus of food shopping. The group is older than average and influenced by retired people and the particularly old (75plus). In 17.6% of all households no car is available (anymore). The effective use of small retail alternatives for shopping is very high, 90.6%. This is reflected in the highest rates of weekly expenditure in village retail facilities.
- **Group2=The Alternatives (N=247):** Interest in food focuses on organic standards, personal service and enjoyment of shopping. Saving money is unimportant. Although cars are available to Alternatives, they use other forms of mobility like the bicycle to reach the shops they choose to frequent. Their interest in retail formats apart from chain supermarkets and discounters is reflected in above-average expenditure in village shops (Table 2).
- **Group3=The Price-Aware (N=253):** Of importance here are a focus on cheap prices and a great affinity for discounters and their product ranges. The customers are very car-oriented. Parking spaces are thus correspondingly important. The Price-Aware find considerable enjoyment and satisfaction in comparing prices and combining visits to supermarkets and discounters. The proportion of retired people is particularly high in this group. As committed

bargain-hunters or smart customers they spend little money in village shops (Table 2).

- **Group4=The Lacklustre (N=400):** Shopping by car is the only alternative. In the self-assessments neither travel by bicycle nor travel on foot plays a role. Shopping is viewed as a necessity rather than an enjoyable activity. Treating yourself when food shopping or particular requirements such as organic standards are valued less than average. It follows that the Lacklustre are those who on average shop least in village shops. The proportion of older individuals (75plus) is almost 10%, people who are still sufficiently mobile (by car) and whose sets of attitudes show that they remain alienated from small retail formats.
- **Group5=The Open-Minded (N=274):** These people understand how to combine using discounters and supermarkets with supplies from small formats such as butchers and bakers to satisfy their food shopping interests. Travel by car and bicycle and on foot are viewed as equally significant for shopping trips. The accessibility of retail locations is defined through proximity to the place of residence *and* to the place of work. In terms of disposition and use structures this group is more hybrid than the other clusters and makes space for a variety of retail formats.

Table 3 shows the significance of the selected attitudes concerning interest in food and food shopping behaviour. All the interviewees assess their cooking abilities extremely positively, and use this to justify their food shopping. There are large differences between the groups with regards to whether food shopping can be enjoyable or whether it is simply a necessary evil. It follows logically that the statements of the Alternatives and the Lacklustre are diametrically opposed to one another.

It is equally important for all the groups to have the possibility to access personnel, advice and service when food shopping, whether in personal discussions with village shopkeepers or at the fresh food counters in the supermarkets. Alternative retail formats to the stationary shops investigated here are completely insignificant in the research sample. Both online shopping and delivery services are evaluated on the Likert scale with minimal values (Table 3).

Quotes from the qualitative interviews with local residents reveal the range of problems and potentials related to local retail in rural areas. Problems deduced from the quotes numbered 1-7 in Table 4 are a) perceived high prices b) a lack of reliability in terms of stocks of products; c) estrangement between retailers and customers due to personal animosity, preventing the development of sustainable customer loyalty; d) insufficient product range and a lack of novelty in the shop; e) a lack of awareness among residents that prevents them from acknowledging the shop as ‘theirs’.

*Table 2. Socio-demographic structures for discriminant groups*

Criteria/group based on discriminant analysis	Group1 Immobile	Group2 Alternative	Group3 Price-aware	Group4 Lacklustre	Group5 Open-minded	Significance KruskalWallis 1	2
Age of interviewee (mean)	62.4	53.0	50.0	54.4	50.3	.000	.000
Age 75plus	23.0	3.3	6.8	9.6	4.4	.000	.000
No car in household	17.6	0.8	1.6	0.5	0.7	.000	.000
Uses small alternatives	90.6	73.1	50.2	52.7	68.9	.000	.083
Proportion of retired	47.8	22.3	38.6	28.6	20.5	.000	.000
Weekly expenditure at village retailers (euros)	47.24	37.00	25.35	23.52	32.46	.000	.000

Source: empirical dataset by author 2015-2017; 1: non-parametric chi-square test (test-by-test deletion); 2: non-parametric chi-square test (listwise deletion)

The potential of local retail is shown in quotes 8-11: a) convenience of access by bicycle or on foot; b) awareness of and satisfaction with the fact that local shops can only stock a limited range of goods; c) strong spatial tie to a local shop due to limited

*Table 3. Attitudinal and usage criteria (means) related to food shopping in rural regions of the federal state of Schleswig-Holstein (Germany), 2015-2017, differentiated according to discriminant groups*

Attitudes and usage criteria	Immobile (N=162)	Alternative (N=247)	Price-Aware (N=253)	Lacklustre (N=400)	Open-Minded (N=274)
I like to cook and buy the food for cooking.	4.3	4.6	4.5	4.2	4.5
Occasionally I would also like to treat myself when food shopping.	2.1	2.9	3.0	2.3	3.1
I can enjoy shopping for food.	2.8	3.8	3.4	2.5	3.0
Shopping for food is simply something I HAVE to do.	2.8	2.0	2.7	3.4	3.2
I also use other alternatives like online food shopping.	1.1	1.2	1.1	1.1	1.1
Being served/advised at a shop counter is important to me.	3.4	3.5	3.3	2.9	3.4
I also use other alternatives like a delivery service	1.1	1.1	1.1	1.1	1.1

Source: empirical dataset by author, 2015-2017 (Likert scale 1=completely untrue to 5=completely true/ very often true)

mobility resulting from old age or small children; d) the ambience and atmosphere of the shop, creating satisfaction and emotional ties to customers.

## Results: The Supply Side

Interviews with retailers and the producers of local fresh goods make clear that they have insufficient knowledge about the socio-demographics and psychographics of their customers, only enough to satisfy commercial necessities. New shops are opened in rural areas with corresponding optimism and are welcomed and financially supported by municipal representatives and regional planners without consideration

*Table 4. Positive and negative attitudes towards food shopping in local retail facilities in rural areas, municipality of Groß Vollstedt, federal state of Schleswig-Holstein (Germany)*

Municipality	Groups	Statement	Quote No.
Groß Vollstedt	Middle-aged	If you personally have different expectations concerning brand, quality and price – then of course you perhaps have to shop elsewhere too	1
Groß Vollstedt	Younger	Sometimes they have stamps, sometimes not, then I don't go there anymore and don't ask anymore	2
Groß Vollstedt	Older	He can't let his personal frustration out on the customers – was so nasty that I didn't go there at all for 14 days	3
Borgstedt	Younger	There must be a broad range of goods – if I only get a small part then I don't go there	4
Groß Vollstedt	Younger	Local retail - never thought about it	5
Groß Vollstedt	Middle- aged	Shop is actually extremely important, that's not clear to other people or they don't care	6
Groß Vollstedt	Younger	Don't want to spend the day food shopping	7
Groß Vollstedt	Middle- aged	Reaching a local retailer on foot or by bicycle with little effort is super important	8
Groß Vollstedt	Middle- aged	In the countryside you know that you don't get everything	9
Groß Vollstedt	Younger	Since having a child, you are tied to a place differently, just more here on the spot	10
Borgstedt	Older	Shop with that little something extra – like how when I get to know someone, I like or don't like	11

Sources: group interviews conducted by the author with selected residents in the municipalities of Groß Vollstedt and Borgstedt in 2016; transcriptions from the digital audio recording; size of groups 3-5 people in semi-structured and open dialogue; older groups c.65plus; middle-aged groups c. 40-60; younger groups ca. 25-40.

of the problem posed by the fact that not all local residents living in the area are also local customers. Although the personal and social embeddedness of shopkeepers (local origins, social acceptance through patronage of local associations) is viewed as being important, it is not enough to foster acceptance among customers and thus to safeguard the basic supply structures of a municipality in the long term. Niche-like solutions must be found to ensure competitiveness within the car-based service areas of the large discounters and supermarket chains. Various ideas have been developed with this aim in mind (Table 5). However, such initiatives require repeated adjustment and recalibration because competitors, other types of businesses and customer demands (e.g. recently for local, fresh, fair and transparently produced goods) are subject to a constant process of transformation. Figure 3 shows a multifunctional village shop that combines food shopping with post office functions, lottery products and various other services in an attempt to act as an intersection point for differently motivated customer trips.

Marketing instruments used by commercially successful retailers in rural regions are summarised in Table 5. They target multi-sensorial marketing to appeal to all five senses (hearing, e.g. crispy bread; touch, e.g. high-quality packaging of glass and porcelain; taste, e.g. tasting opportunities; smell, e.g. the scent of baking bread;

*Figure 3. An example of a multifunctional village shop in the municipality of Probsteierhagen*



*Figure 4. Retail atmosphere in a village shop in the municipality of Hollingstedt*



sight, e.g. a wide range of fruit and vegetables), and thus present customers with an idealised, idyllic and compact range of typically local products. The notion of a rural idyll and the local origin of products are indicated by presenting goods in baskets, using materials made of wood and straw as seen in Figure 4, and through labelling. So-called product passports documenting the origin and ingredients of goods, and public tours of the premises are intended to convince customers of the transparency and trustworthiness of production and of product quality. Personalised communication via email-newsletters, subscription systems and doorstep delivery services have no equivalent in the more industrialised and anonymised retail-world of discounters and supermarkets. This individualisation is not, however, without its risks. Relationships between retailers and customers based on sensibility, personal ties and friendship may, for instance, be threatened by a customer not purchasing a particular product: ‘We want to be sure that they know what they are buying’ (interview with Gunda Sierck, Dairy Geestfrisch, 15.04.2016). The attitudes and convictions of customers involve understanding and identifying with the product range (‘The customers could of course buy their things somewhere else’: interview with Claudia Laparose, village shop in Neuwittenbek, 16.08.2017), making it clear that neither the Price-Aware nor the Lacklustre groups (Table 3) are core customers.

*Table 5. Retailers and producers searching for innovative ideas, Schleswig-Holstein*

Criterion	Implementation
Price	<ul style="list-style-type: none"> <li>• ‘I wait until they [the customers] come’ – ‘they want us’</li> <li>• ‘Special’ products and quality at premium prices</li> </ul>
Product	<ul style="list-style-type: none"> <li>• ‘Real’ organic products (Demeter) from an organic wholesaler</li> <li>• Additional products like liqueurs, jam, biscuits (‘I’ll treat myself for once’)</li> <li>• Box of vegetables – ‘you have to just be up for it’, recipe ideas</li> <li>• Labelling with ‘<i>Feinheimisch</i>’ (‘fine and local’) signifying at least 60% regional products</li> <li>• Product passports (what comes from where?)</li> </ul>
Presentation	<ul style="list-style-type: none"> <li>• ‘Rural’ atmosphere with straw baskets</li> <li>• Farmers’ market designs – colourful, natural, ‘honest’</li> <li>• Nostalgic designs</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• Communication preferably across the counter (plus Facebook, email-newsletters)</li> <li>• Flyers in everyone’s letterboxes, local newspaper reports</li> <li>• ‘Communication’ about opening hours (e.g. parents using the shop while the children are at local sports sessions)</li> <li>• Word-of-mouth propaganda</li> </ul>
Production	<ul style="list-style-type: none"> <li>• Order-based production – no excess quantities</li> <li>• Our own recipes, our own grains ‘the customer knows who made it’</li> <li>• Traditional ovens (‘back-to-roots’)</li> </ul>
Service/trust	<ul style="list-style-type: none"> <li>• Special requests, order service, mobile selling on people’s doorsteps</li> <li>• Subscription system</li> <li>• Reliability/commitment: ‘we always come’</li> <li>• Develop transparency and a trusting relationship with customers</li> <li>• Special agreements (monthly billing, money from a neighbour etc)</li> <li>• Open days – tours of premises</li> <li>• Social meeting place (café service)</li> <li>• Taste in keeping with childhood memories</li> <li>• Out-of-hours sales via a so-called bread cupboard</li> </ul>
Cooperation	<ul style="list-style-type: none"> <li>• Shelves of products in other shops (training of staff)</li> <li>• Networks with other farm shops and traditional producers</li> </ul>

Source: expert interviews conducted by the author in 2016 and 2017 using the example of two village shops (municipalities of Neuwittenbek and Hollingstedt), an organic bakery (municipality of Passade) and a dairy (town of Kropp)

In addition to the Immobile and locally rooted individuals, the groups to be targeted are rather the Alternatives and the Open-Minded (Table 3).

## SOLUTIONS AND RECOMMENDATIONS

Retail location planning is usually based on socio-demographic filters and distances, while municipal planning often focuses on the wishes of residents (Would you use the shop?). Expert interviews with local mayors and reports by retail location

planners confirm this practice dilemma. However, conducting a psychographic survey of residents (Question 5) before opening a shop has proved much more useful in determining whether it will find broad acceptance, and also provides information on sets of attitudes that can be used to develop innovative approaches to distinguish the new shop from other retail formats, allowing a supplier niche to be utilised (Question 1). This approach makes preparation for retail planning more complicated but the risk of failed plans (the shop is unsuccessful or is only in demand among small niche groups) is reduced. This applies both to regions where there is objectively no shop left open at all and the establishment of a new retail outlet is thus relevant, and also to village shops fighting to survive. The results show that:

- A basic range of food stuffs is not sufficient for small shops to survive in competition with discounters and supermarkets. The latter generally have 1,000-3,000 m<sup>2</sup> of retail space and a product range encompassing several 1,000 articles. The shops investigated here are between 50 m<sup>2</sup> and 400 m<sup>2</sup> in size and in some cases stock considerably less than 1,000 articles. Small shops therefore need to occupy distinctive niches in terms of product range, quality standards, designations of origin and services (Table 5) (also see Jussila, Lotvonen, & Tykkyläinen, 1992; Broadbridge, & Calderwood, 2002; Clarke, & Banga, 2010).
- A product range niche must appeal to the Zeitgeist of potential customers. This is confirmed by the expert interviews with best-practice examples in the research area (Table 5) and the high levels of interest of the so-called Alternative Customers (Table 2) in small-scale shops. Enlightened and ethically oriented customers inquire increasingly often about the production of goods (Brinkley, 2017). They demand transparent, sustainable and fair production conditions, local products and short distance goods transport, and ask about climate impacts, working conditions and the protection of animals and the environment in the production chain. The best-practice examples presented here utilise so-called product passports that document the ingredients of the final product and their origins. Open Days for local residents offer an opportunity to see behind the scenes and observe production and sales. This discourse is widespread in Germany and has helped fuel dramatic growth in the organic and fair trade segment of fresh goods, even in discounters, as demonstrated by the relevant internet presences of discounters like Aldi and Lidl which are familiar throughout Europe. In contrast to anonymous shopping in large stores, small shops (in rural areas) can also gain a competitive edge through the personal touch of the retailer and staff. This is enhanced by cafes acting as meeting places and social events such as the lunch offers provided by the village shops investigated here.

- Cooperation between village shops and direct producers and farm shops helps to extend the product range of local and fresh products and attract attention with very specialised products (Question 4). This mixture of cooperation and competition (co-opetition) benefits both the small shops and the local direct producers and farm shops that often suffer from a lack of visibility (Steiner, & Atterton, 2015). Networks of such establishments can be built up through personal communication, quality commitment and special agreements on commissioning (Table 5). In one case study a small village shop of about 50 m<sup>2</sup> in size offers goods from six local producers to create a fresh food oasis (meat, organic vegetables, milk, baked goods, conventionally grown fruits and eggs).
- The retailers must accept that it will not be possible to attract all local clients (Sullivan, & Savitt, 1997; Scarpello, Poland, Lambert, & Wakeman, 2009). The aim should rather be to gain the long-term loyalty of committed customers with high purchasing power through a small-shop concept that embraces sales, product range and social aspects. The results of the surveys of residential households demonstrate that the actual utilisation of small retail formats varies between 50% and 90% in the different attitudinal groups (Question 2 and 3).
- Many non-customers lack sensitivity for the characteristics and consequences of demographic change, which need to be repeatedly highlighted in local politics. The quotes from residents (Table 4) clearly reveal that a fairly significant proportion of the local population have no interest in the topic of local retail and have adapted to the lack of retail, in some cases by changing their spatial focus. Ageing in place implies that in the future, current non-customers will be restricted in their physical mobility by ageing and will themselves require local retail options.

## **FUTURE RESEARCH DIRECTIONS**

3D-GIS analyses can graphically combine locations *and* their retail spaces with one another. This allows the visualisation not only of areal gaps, but also of the varied magnet effect of differently sized stores on one another and product variety. Such representations tend to be concentrated within the field of landscape ecology, while a lack of technical expertise and areal datasets means they are rather underrepresented in the social sciences. However, a more extensive, funnel-shaped representation of undersupplied areas, highlighting the crises, is certainly possible (Chen, & Clark, 2013). Other work already integrates opening hours (afternoon closing, Sunday

opening etc) in GIS analyses in order to identify the existence of food deserts that become active at particular times (Widener, & Shannon, 2014).

The analysis of food deserts requires long-term observation. Only then is it possible to show whether the spatial depletion of neighbourhood supplies (not only in rural regions) is increasing, which retail formats and population groups are affected, and whether particular interventions (the construction or opening of new shops) can change sets of attitudes. Supermarkets and food discounters continue to increase their retail space, negatively impacting on smaller retail formats (Jürgens, 2018). Stronger regional planning regulation is required here; development requests from such stores should no longer be dealt with autonomously by individual (small) municipalities.

Discussion of food deserts requires not only a broad mix of qualitative and quantitative methods like focus groups and expert interviews, GIS analyses and household surveys. It also needs to take a multi-actor approach. The success or failure of shops must be understood by considering the commercial or marketing perspective of the retailers, behavioural analyses of customers and non-customers, *and* governance structures that use policy principles, regulations and planning guidelines to influence the behaviour of both the supply and demand sides.

It is unclear whether the effects of further technological development may actually promote customer acceptance of small shops or, on the contrary, finally exclude them from the market completely. Such developments include new types of delivery service involving collection points or automated air drones, and growth in the online ordering of food stuffs via smart phone and virtual shops using touchscreens (Grewal, Roggeveen, & Nordfält, 2017). Several of these developments are still largely unknown in Germany or have only been established as a relevant pattern of demand in selected metropolitan regions.

## **CONCLUSION**

The investigation used a mixed-method approach to combine attitudes and behaviour on the demand side with marketing responses on the supply side. A large proportion of the local population in rural areas does not make sufficient use of its neighbourhood shops. There is therefore a danger that such shops will be forced to close, depriving residents interested in local retail, or indeed dependent on it due to physical immobility, of the opportunity to shop close to home. The latter group may then suffer from food deserts because they will have to invest considerably more effort, both in time and money, to reach shops which they do not actually want to use. For other groups nothing will change, at least initially, because they shop in the discounters and supermarkets located in regional centres. It remains unclear whether

the closing of a village shop impacts negatively on the quality of life of residents or at what point a supply gap of this sort starts to be negatively perceived. The effects of ageing in place and the growth of single-person households are heightening the importance of discussions about local shopping facilities in rural areas, not only in Germany. However, many households still see no reason to enter into such a shopping experiment. They thus contribute towards creating food desert experiences for vulnerable population groups because local shops are forced to close due to a lack of commercial viability. This aspect of the situation has not yet been considered in the food desert discourse, dominated as it is by Anglo-American authors. On the other hand, best practice examples on the supply side show that retailers want to better understand their customers. The retailers are aware that they are best able to appeal to and retain customers who are convinced by their products and whose attitudes mean that fresh local (organic) products are important features of their lifestyles.

## **LIMITATIONS**

The data for the GIS analysis are subject to restrictions with regards to their completeness and the exact definition of types of shops. In the household surveys younger residents under 40 are clearly underrepresented. This applies to all the surveys from 2015 to 2017. The forming of clusters of attitudes is inevitably based on the 40 criteria surveyed, which are neither exhaustive nor are they weighted in comparison with one another.

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## KEY TERMS AND DEFINITIONS

**Accessibility:** The spatial and temporal effort required to reach a place. Accessibility can vary with changes in speeds, forms of mobility (car, bicycle, on foot) and landscape (e.g., slopes, mountains) and can be graphically depicted as catchment areas using Geographical Information Systems.

**Convenience Store:** Usually a retail format with limited floor space, such as a kiosk, a petrol station shop, railway station shop or neighbourhood store, which attracts customers due to its convenience and accessibility, both temporally speaking and in terms of transport, and its limited product range.

**Discount Store:** Retail chain format with a limited product range, aggressive price-based marketing, few service features and a self-service set-up. Particularly

successful in the food retail sector; Aldi and Lidl are the most well-known globally active companies from Germany.

**Food Desert:** A residential area characterised by the depletion, increasing monotony or complete loss of food retail facilities. This is linked to sustained deterioration in the product range. ‘Objective’ food deserts can be contrasted with ‘subjective’ food deserts in which people, due to a lack of information or interest, fail to make sufficient use of local retail, placing a question mark on the viability of these retail offerings.

**Food-Related Lifestyle:** A concept that links interest in and demand for food goods with psychographic attitudes and perceptions.

**Geographical Information System (GIS):** Software for the computer-aided processing and cartographic representation of large amounts of data.

**Schleswig-Holstein:** The most northern state of the Federal Republic of Germany with extremely rural settlement structures.

**Supermarket:** A retail format with a broad range of branded food articles, characterised by a self-service set-up with, usually, counters for serving fresh products like meat, cheese and bread.

**Village Shop:** A retail format in rural areas that should safeguard local food supplies but is fighting for survival following years of intense commercial pressure arising from competition with chains of discounters and supermarkets.

## APPENDIX

*Table 6. Criteria surveyed in rural municipalities 2015-2017*

Satisfaction with and judgements about food shopping	Scale				
	I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
1. I shop in a discount store (Aldi, Lidl, Penny).	1	2	3	4	5
2. I shop in a supermarket (Edeka, Sky, Rewe).	1	2	3	4	5
3. The choice of products in a discount store is enough for me.	1	2	3	4	5
4. The choice of products in a supermarket is enough for me.	1	2	3	4	5
5. I combine food shopping in discount stores and supermarkets.	1	2	3	4	5
6. I am a patron (regular customer) in my supermarket or discount store.	1	2	3	4	5
7. I always buy everything in <b>one</b> shop of my choice.	1	2	3	4	5
8. I choose the shop that is closest to home.	1	2	3	4	5
9. I choose the shop that is closest to my place of work.	1	2	3	4	5
10. I would like the shop to be easily accessible by car.	1	2	3	4	5
11. I would like the shop to be easily accessible on foot.	1	2	3	4	5
12. I would like the shop to be easily accessible by bicycle.	1	2	3	4	5
13. I would like the shop to be easily accessible by bus.	1	2	3	4	5
14. I would like many different shops nearby so I can compare products and prices.	1	2	3	4	5
15. When shopping for food the price is especially important to me.	1	2	3	4	5
16. I like to cook and buy the food for cooking.	1	2	3	4	5
17. Branded (food) products are especially important to me.	1	2	3	4	5
18. I don't care about brands at all, the main thing is to get the right quality.	1	2	3	4	5
19. A large choice of food is important to me.	1	2	3	4	5
20. Fresh products are important to me.	1	2	3	4	5
21. Organic products are important to me.	1	2	3	4	5

*continued on following page*

*Table 6. Continued*

Satisfaction with and judgements about food shopping	Scale				
	I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
22. Being served/advised at a shop counter is important to me.	1	2	3	4	5
23. I come primarily for the special offers.	1	2	3	4	5
24. If I can save a bit again, then especially with food.	1	2	3	4	5
25. I want to be able to buy non-groceries too (e.g. textiles, computers, books, gardening articles)	1	2	3	4	5
26. I also come because of the more convenient parking.	1	2	3	4	5
27. I like to make use of the longer opening times.	1	2	3	4	5
28. I come because I feel comfortable in the shop.	1	2	3	4	5
29. I go shopping on a fixed schedule.	1	2	3	4	5
30. I like to buy food spontaneously.	1	2	3	4	5
31. Occasionally I would also like to treat myself when food shopping.	1	2	3	4	5
32. I can enjoy shopping for food.	1	2	3	4	5
33. Shopping for food is simply something I HAVE to do.	1	2	3	4	5
34. I like to go shopping in the bakery 'round the corner' (a traditional baker's shop).	1	2	3	4	5
35. I like to go shopping in the butchers (a traditional butcher's shop) 'round the corner'.	1	2	3	4	5
36. I also use other alternatives like online food shopping.	1	2	3	4	5
37. I also use other alternatives like a mobile supermarket.	1	2	3	4	5
38. I also use other alternatives like a farm shop.	1	2	3	4	5
39. I also use other alternatives like the weekly market.	1	2	3	4	5
40. I also use other alternatives like a delivery service e.g. from Rewe, Sky, Edeka.	1	2	3	4	5

*Table 7. Discriminant Groups by set of relevant attitudes (mean)*

Criteria	Immobile	Alternative	Price-aware	Lacklustre	Open-minded
Q15 price important	2,6	<b>1,9</b>	<b>4,1</b>	3,1	2,9
Q12 bicycle	3,2	3,3	3,5	<b>1,8</b>	<b>3,7</b>
Fr1 discount store	<b>2,7</b>	3,0	<b>4,4</b>	4,0	4,1
Q10 car	<b>2,6</b>	4,0	<b>4,5</b>	4,4	4,4
Q35 butcher	3,6	3,3	2,5	2,5	<b>4,0</b>
Q32 enjoy	2,8	<b>3,8</b>	3,4	<b>2,5</b>	3,0
Q38 farm shop	1,9	<b>3,3</b>	1,9	<b>1,7</b>	2,5
Q14 comparison	<b>1,7</b>	2,2	<b>4,0</b>	2,6	2,7
Q11 by foot	3,5	3,0	3,4	<b>1,8</b>	<b>3,7</b>
Q24 saving money	1,9	<b>1,4</b>	<b>3,2</b>	2,2	2,1
Q8 closest to home	<b>3,8</b>	2,8	3,4	2,9	3,7
Q9 closest to place of work	<b>1,6</b>	2,2	2,6	2,3	<b>3,0</b>
Q39 weekly market	2,1	<b>3,4</b>	2,4	<b>2,1</b>	3,1
Q3 choice discount store	2,4	2,0	<b>3,7</b>	3,2	3,1
Q26 parking	<b>2,0</b>	2,8	<b>3,9</b>	3,6	3,5
Q6 regular customer	<b>2,7</b>	3,7	4,1	4,1	4,0
Q31 treat myself	<b>2,1</b>	2,9	3,0	2,3	<b>3,1</b>
Q25 nonfood	2,1	<b>2,0</b>	3,4	2,5	2,3
Q34 bakery	3,7	4,1	3,3	3,1	<b>4,4</b>
Q5 combine food shopping	<b>2,6</b>	3,1	<b>4,3</b>	4,0	4,3
Q27 opening times	<b>1,9</b>	2,6	<b>3,4</b>	2,7	2,6
Q2 supermarket	<b>3,0</b>	4,0	3,9	4,0	<b>4,1</b>
Q21 organic products	3,0	<b>4,1</b>	2,5	<b>2,5</b>	2,9
Q33 have to do	2,8	<b>2,0</b>	2,7	<b>3,4</b>	3,2
Q23 special offers	2,1	<b>1,9</b>	<b>3,6</b>	2,5	2,4
Q30 spontaneously	2,8	3,4	3,4	2,5	3,3
Q22 service	3,4	<b>3,5</b>	3,3	2,9	3,4
Q4 choice supermarket	3,3	3,4	4,1	3,9	4,1

Source: empirical dataset by author, 2015-2017 (Likert scale 1=completely untrue to 5=completely true/ very often true) (mean data)