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# **Farmer-to-Consumer Direct Marketing: The Role of Customer Satisfaction Measurement for Service Innovations**

**Achim Spiller, Anke Zühlsdorf and Matthias Mellin**

Georg August University Goettingen, Department of Agricultural Economics und Rural Development, Food Marketing, Platz der Goettinger Sieben 5, 37073 Goettingen, Germany [a.spiller@agr.uni-goettingen.de](mailto:a.spiller@agr.uni-goettingen.de). [m.mellin@agr.uni-goettingen.de](mailto:m.mellin@agr.uni-goettingen.de)



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## Farmer-to-Consumer Direct Marketing: The Role of Customer Satisfaction Measurement for Service Innovations

*Achim Spiller, Anke Zühlsdorf and Matthias Mellin<sup>1</sup>*

*Georg August University Goettingen, Department of Agricultural Economics und Rural Development, Food Marketing, Platz der Goettinger Sieben 5, 37073 Goettingen, Germany  
[a.spiller@agr.uni-goettingen.de](mailto:a.spiller@agr.uni-goettingen.de), [m.mellin@agr.uni-goettingen.de](mailto:m.mellin@agr.uni-goettingen.de)*

### Abstract

The importance of direct marketing for high quality farm products has increased during the past few years. This paper analyses the impact of customer satisfaction and its driving forces for farmer-to-consumer direct marketing and is based on a customer survey in 33 organic and conventional on-farm stores in Germany. The results emphasise the role of store atmosphere and customer service as the main influencing factors on customer satisfaction.

**Keywords:** *Direct Marketing, Customer satisfaction, Regression, Service Quality*

### 1. Direct marketing

Farmers' direct marketing of food is a widely neglected branch of modern agribusiness marketing. It is certainly a niche market but plays a distinctive role for establishing high quality markets in the food business. Farmer-to-consumer marketing is of growing importance, not only in providing many farmers with greater net returns but also in retaining food traditions (Kambara/Shelley 2002). The direct contact between farmers and consumers enables both sides to boost special qualities like traditional agricultural products, organic food, denomination of origin etc. Consumer studies have revealed that purchasing at farms is typically connected with high involvement in nutrition and a more sophisticated food consumption style (Lüth 2005). In many cases, direct marketing is also combined with farm tourism and regional developing strategies. Typically it is a small farm strategy (Govindasamy et al. 1998). All in all, direct marketing by farmers is part of a quality oriented food culture.

The following paper discusses the marketing challenge faced by farmers working as producers as well as retailers. There are several types of farmer-to-consumer direct marketing, e. g. pick-your-own (PYO) farms, roadside stands, home delivery services, e-commerce, weekly farmers' markets and community supported agriculture programs (Thilmany et al. 2006; Baer/Brown 2006). In the focus of this paper are direct farm markets, outlets located at the farm used to sell their own produce, which are a growing segment especially in Germany (Recke/Wirthgen 2004).

Only a few papers deal with direct farming, in most cases consumer surveys which examine customer preferences and willingness to pay (Govindasamy/Nayga 1996, Govindasamy et al. 1998b, Henneberry/Agustini 2004, Recke et al. 2004,). Customers are characterised as well

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educated, female, upper middle class and middle aged. They expect high quality fresh produce; some are additionally willing to support local farmers and business (Recke et al. 2004). On the basis of econometric analysis, Gandee et al. (2003) expose high per capita income, higher education (especially professional degrees) and farm agglomeration effects (percentage of land in farming) as determinants of an increase in direct farm marketing sales.

Besides simple checklists (e. g. Cottingham et al. 1994, Wirthgen/Maurer 2000), the perspective of farmers as retailers has rarely been analysed. Kambara/Shelley (2002) reveal that a lack of affordable labour and capital in small farms is the most important obstacle to more success. Uva (2002) shows that word of mouth and newspaper advertising are the most relevant marketing tools. Farmers should use different marketing channels but opportunities to enhance the business are often restricted by a lack of marketing knowledge.

For a family farm business with high costs low price strategies are not suitable. In a premium it is important to act customer orientated (Grunert et al. 1996). Thus, customer satisfaction is a necessary condition to be successful. Farmers typically sell to a small group of customers, most of them regular buyers. This personal and close contact with the customers provides a chance to build up sustainable loyalty. But often farmers have difficulties to define their own position in competition and to analyse their own strengths and weaknesses realistically. In the retail industry customer satisfaction surveys are a standard tool to fulfil this requirement. Nevertheless, the importance of customer satisfaction in the field of direct marketing is not analysed in the marketing or agribusiness literature. Most small farmers do not use professional market tools.

## 2. Objectives

Customer satisfaction studies have been included in the standard repertoire of marketing since approximately 20 years (Parasuraman et al. 1988). In the service sectors, especially the food retail industry, the high relevance of service quality for business success is recognized and examined by periodical studies like the American or the European Customer Satisfaction survey (Fornell et al. 1996; Juhl et al. 2002). The literature documents, in many cases, the effect of customer satisfaction on customer loyalty (Bion 1993). Different methods of measurements were used in the past. Often used, for example, is Silent Shopping, i.e. the hidden observation of sales staff by test persons. In the field of subjective procedures, the explicit measurement of customer satisfaction by surveys plays the largest role together with complaint management (Schütze 1992).

Currently, the professional use of customer satisfaction research is limited to the global players in food retailing. The high price for a professional satisfaction survey deters most small enterprises. As far as we know, there are only a few independent food retailers who use market research to evaluate customer satisfaction. To our best knowledge, for direct farming no published satisfaction survey exists.

This is problematic considering the relevance of personal relationships for small farm outlets with high costs. Because of cost disadvantages, small shops can only survive by achieving high service standards. The withdrawal of small retailers from the food business, for example butcheries or specialised cheese or fish shops, demonstrates that family owned independent firms show substantial deficits in customer orientation.

The following contribution presents the methodology and the results of a customer satisfaction

survey for on-farm stores in Germany. 60,000 agricultural enterprises in Germany sell their products without middlemen, among them are approx. 14,000 professionally managed enterprises. For these farmers direct marketing represents the main channel of distribution. This is a portion of 3.68 % of all agricultural enterprises in Germany (approx. 380.000 enterprises). The business volume in this market is about 3-3.5 billion € Direct farming developed in the past few years as a growth market (Recke/Wirthgen 2004). The same trends can also be observed in other countries. For example Thilmany/Watson describe direct marketing as an increasing segment in the US market. In 2002, 116,733 farms (from 2.1 million) are involved in direct marketing, representing 5.5 % of all farms (Thilmany/Watson 2004, p. 19). For a typical farm, the revenue from direct sales is very small however, the segment is fast growing (Roth 1999). The greatest share of farms can be found in Oregon (15.9 %) and Washington (12.6 %), supported by strong institutions and involved consumers. An important segment is the growing number of farmers markets with over 3,100 markets in the US, increasing 79 % from 1994 to 2002 (Thilmany/Watson 2004, p. 22).

Farmer-to-consumer direct marketing is in lively competition with other store formats, e. g., supermarkets and organic stores which have developed their own assortment of regional and high quality products. In Germany, most supermarkets have entered the organic marketing segment during the last years, introducing new articles positioned very near to traditional farm produce (Bolten et al. 2006). Thus, farms should also improve their assortment and service quality. Nevertheless, little is known about the problems of farmers working as retailers. An objective of the following analysis is therefore to determine the parameters of customer satisfaction and to investigate how the various factors contribute to customer loyalty.

### 3. Study design

The following survey represents an application of the seminal multi-item scale (SERVQUAL) developed by Parasuraman et al. (1988) for standardized surveys of service quality. SERVQUAL refers conceptually to an ex-post-evaluation of the perceived service elements. It is differentiated from attitude research by the actual purchase experience of the customers, thus it builds on a comparison of customer expectations (conceptions of an ideal store) and the experience made with a specific retailer.

There is a growing number of academic studies on customer satisfaction. In a recent publication, Szymanski/Henard (2001) conduct a meta-analysis. They reveal that fairness and disconfirmation are strongly related to customer satisfaction on average. Among the outcomes, preventing negative word of mouth communication and repeat purchasing are mainly relevant. The findings in different surveys are however mixed. Customer satisfaction studies in food retailing are reported, for example, by Gail/Scott (1995), Bell et al. (1997), Hackl et al. (2000) and Juhl et al. (2002). Gómez et al. (2004) describe a comprehensive survey, measuring the links between store attributes, customer satisfaction, and sales performance with data from 250 stores. They show three main antecedents to customer satisfaction in food retailing, i.e. customer service, quality of different products and value for money. Customer service is the most important determinant of overall satisfaction for US supermarkets. To our best knowledge for farmer-to-consumer direct marketing no customer satisfaction surveys are published.

Our questionnaire consists of 13 question blocks in which 53 items are considered. The first question deals with overall customer satisfaction, followed by statements about the unique selling proposition and the respective store attributes - quality of products, service quality, locati-

on, store atmosphere etc. In most cases the scale is a 5 box Likert scale, ranging from -2 to +2. Additionally, some rating scales are used.

Altogether, 1,537 customers were questioned in 33 on-farm stores in different German regions. 10 of the farms produce organic food, 23 sell conventional products. The average annual sales volume is about 130,500 € (range 9,800-696,000 €). The number of employees lies between 0.5 and 11. Successful enterprises have a sales volume per square meter over 5,000 €/m<sup>2</sup> (mean=3,183 €/m<sup>2</sup>). The survey took place in the outlets with self administered questionnaires.

#### 4. Target groups of farmers' direct marketing

For direct marketing, knowledge about the characteristics of the customer is necessary. There is a considerable literature analysing consumer demographics for farmers markets (Govindasamy/Nayga 1996, Kezis et al. 1998). Typical consumers of farm outlets are well educated, female, upper middle class and middle aged.

The results of our sample confirm these trends, demonstrating a really outstanding target group of direct farming. In comparison to the whole German population, customers of direct farming are characterized by higher education and income. Nearly half of the buyers are family households. In comparison to conventional farms, producers of organic food have a more attractive target group with a higher income and better education. Conventional farms reach rather old customers with a mean of 51 years compared with organic stores (43 years).

**Table 1.** Customer profile

Characteristics	Organic farms (n=11)	Conventional farms (n=22)
Average age	43 years	51 years
Share of customers with a net-income of more than 3.000 €	25 %	20 %
Share of customers with higher education	65 %	41 %
Share of regular customers (≥ 1x per week)	68 %	57 %
Share of customers in the neighbourhood (< 5km)	42 %	46 %
Share of male customers	23 %	31 %
Share of customers with children in the household	49 %	40 %
Share of single households	13 %	9 %

#### 5. Customer satisfaction: Status quo and determinants

The main objective of the following part is to evaluate the status quo and the determinants of customer satisfaction for buying at an on-farm store. Generally, the degree of customer satisfaction is quite high (see table 2). The mean of customer satisfaction on a scale from -2 (very dissatisfied) to 2 (very satisfied) is 1.66 for all involved stores; the best farm shop receives an average score of 1.88. 69 % are very satisfied, 29 % satisfied, and only 2 % are not convinced.

**Table 2.** Customer satisfaction

Variable	Mean	Standard Deviation	Minimum	Maximum
Customer satisfaction	1.66	0.537	1.18	1.88

Scale from - 2 (very dissatisfied) to + 2 (very satisfied)

In the next step, a factor analysis (using principal component analysis) was conducted to gain an overview of the different aspects and determinants of customer satisfaction. Besides overall satisfaction, four further questions could be integrated in the factor customer satisfaction, which explain 59 % of the variance (KMO = 0.77; Alpha = 0.75).

**Table 3.** Factor analysis customer satisfaction

Factors	Factor loadings
This is one of the best farm outlets I ever have seen*	0.82
I feel very well in this store*	0.79
How satisfied are you with our performance?***	0.74
Shopping on this farm is an outstanding event**	0.72

\*Scale from - 2 (disagree) to + 2 (agree); \*\*scale from - 2 (very dissatisfied) to + 2 (very satisfied)

KMO = 0.77; CA = 0.75; explained variance = 59 %

The determinants of customer satisfaction are revealed via different likert and rating scales. After some minor corrections for double loading, five different factors could be extracted with a second factor analysis. All factors are reliable showing a Cronbach's alpha values above 0.7.

**Table 4.** Factor analysis determinants of customer satisfaction

<b>Factor</b>	<b>Factor loadings</b>
<b>Evaluation of product quality (KMO = 0.81; CA = 0.75; explained variance = 0.51 %)</b>	
Quality of our products**	0,759
Freshness of the products**	0,757
Taste of the products**	0,698
Cleanliness and hygienic standard in the store**	0,696
The advice is especially competent*	0,654
<b>Evaluation of the staff (KMO = 0.85; CA = 0.86; explained variance = 64 %)</b>	
Competence of the staff**	0,826
Friendliness of the staff**	0,823
Cleanliness of the staff**	0,814
Helpfulness of the staff**	0,810
Advice and service**	0,730
<b>Evaluation of the store atmosphere (KMO = 0.67; CA = 0.74; explained variance = 66 %)</b>	
Interior decoration of the store**	0,851
Product presentation**	0,831
Atmosphere in the store**	0,755
<b>Evaluation of the assortment (KMO = 0.71; CA = 0.71; explained variance = 54 %)</b>	
Promotion activities**	0,769
Product information**	0,738
Well-priced**	0,721
Variety**	0,716
<b>Evaluation of the site (KMO = 0.73; CA = 0.71; explained variance = 54 %)</b>	
Location**	0,749
Parking places**	0,734
Sign posting**	0,730
Exterior decoration **	0,727

\*Scale from - 2 (disagree) to + 2 (agree); \*\*scale from - 2 (very dissatisfied) to + 2 (very satisfied)

One main objective of the study was to reveal the driving forces determining customer satisfaction via regression analysis (OLS). The results demonstrate the important role store atmosphere in the farm outlet plays, which is determined by the store interior and the presentation of the assortment. The model explains 65 % of the total customer satisfaction. Consumers who are satisfied with their farm outlet perceive a unique store design which is characterised through a special interior and an outstanding product presentation.

Similarly important is customer service, i.e. the competence and the service orientation of the staff. Specialized stores like farm outlets live on the ability to build up personal relationships with consumers.



**Table 5.** Regression model to explain customer satisfaction

<b>Independent variables</b>	<b>Beta</b>	<b>t</b>
Factor store atmosphere	.27	6.95***
Factor staff (customer service)	.22	6.05***
Factor product quality	.17	4.22***
Trust in the farmer (single question)	.15	5.02***
Factor assortment	.13	4.00***
Events for children (single question)	.11	4.65***

Depending variable: Factor customer satisfaction  
Adj. R<sup>2</sup> = 0.650; F = 173.91\*\*\*; \*\*\* p .001

Customers are seeking exceptional products on a farm, therefore the quality of the articles and especially taste and freshness are necessary conditions for customer satisfaction. Consumers expect traditional handcraft and special ingredients. Farmers should communicate process qualities and the freshness of the articles.

In most cases farm products receive a certain price premium. However, customers are not able to supervise the origin of the products (credence goods). Against this information asymmetry, trust in the farmer is an important determinant of successful direct marketing. In Germany, consumer protection agencies often report types of mislabelling on farmers markets. For example, some farmers sell conventional eggs as freerange products. Direct marketing is not free from opportunistic behaviour. Thus, farmers should try to signal honest behaviour and high quality products through transparency.

Customers evaluate the farmers' assortment through four different criteria: promotion activities, price, information, and a wide choice of products. All in all, price is not as relevant as for supermarkets. Consumers who prefer farm outlets, typically know that prices have to be higher compared to large scale stores. However, some promotion activities and lower prices for sensitive products with high price elasticity could support the store image. The variety of articles is also a significant variable and mirrors the trend towards broader assortments in German farm outlets. Comprehensive information about product quality and origin is necessary to highlight the difference between farm produce and articles in supermarkets.

During our farm visits, we could often detect insufficient opportunities for children. Despite the fact that more than 40 % of all customers are families with younger children, only few farms present special events for children like animals to play with, playgrounds etc. In many cases, buying at a farm is a form of event for families, making children familiar with rural life and nature.

Surprisingly, site criteria, parking places and store appearance do not have a significant influence in the regression analysis. Probably these criteria are important variables for non-customers but not for the regular buyers we have interviewed.

In addition to the identification of the main determinants of customer satisfaction the study demonstrates the significance customer satisfaction plays for stable relationship and long-term business success. Customer satisfaction is closely connected to word of mouth communication as the main marketing tool for farm outlets (Uva 2002) and shopping frequency as an indicator of customer loyalty (Bion 1993; Fornell et al. 1996). Satisfied customers often recommend the farm to other consumers. However, the correlation between satisfaction and buying frequency is rather low. One explanation is that some farms mainly reach tourists as customers which do not have the opportunity for regular buying.

**Table 6.** Correlation between satisfaction and customer relationship

	Customer satisfaction (factor)	Word of mouth communication	Shopping frequency
Customer satisfaction (factor)	1	.34***	.14***
Word of mouth communication	.34***	1	.37***
Shopping frequency	.14***	.37***	1

\*\*\* = p 0.001

## 6. Conclusion and limitations

The survey has indicated that the target group of direct farming presents a good opportunity for selling high quality food. Consumers on farms are characterized by high income and a clearly above average education level. From other food consumer surveys it is known that these customers are willing to pay more for special high quality products. Therefore direct selling can be one starting point for developing a new food culture in Germany besides the dominating discount stores.

The results provide insights into the determinants of customer satisfaction in a small business environment. For successful direct marketing it is crucial to offer an outstanding shopping atmosphere for customers. Under this condition customers are willing to spend more money for agricultural goods. The second most important point is a competent service, helpful and friendly staff. Therefore, regular further trainings in customer orientation and product knowledge are an important task for the employees in on-farm stores. Finally, the survey proves the economic importance of customer satisfaction which is closely connected to word of mouth communication.

In contrast to the retail industry, farm outlets are not standardized but stamped by the owner's personality. Store atmosphere as well as the individual service have to be developed according to the special approach of the farmer. In many cases, the store manager is female. She should create a unique atmosphere, which contrasts the often sterile and cold design of modern supermarkets. The results of the survey demonstrate that most farmers are quite successful in establishing differentiating store interiors. Nevertheless, there are some obvious points to improve. Farmers are in a lively competition with new store formats, e. g., organic supermarkets and conventional supermarkets which have developed their own organic and regional product lines during the last few years. In our project, all involved farms got a detailed benchmark report allowing them to improve their service quality.

The survey is quite comprehensive concerning the amount of consumers involved but the number of stores was limited due to the ongoing status of the research project. Another limitation is caused by the interview situation. Self administered questionnaires allow only a small number of questions. Especially, the integration of attitude and food related lifestyle items would give more opportunities to cluster the respondents.

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