
16 Distribution

Matthew T.G. Meulenberg

Department of Marketing and Marketing Research, Wageningen Agricultural University, Hollandseweg 1, 6706 KN Wageningen, The Netherlands

INTRODUCTION

Distribution is a basic activity in the marketing of goods and services. It has been a core element of marketing theory right from the beginning. Indeed, one of the first scientific papers on marketing was entitled 'Some problems in market distribution' (Shaw, 1912). Distribution has become a marketing activity which is integrated in a total marketing plan. It is concerned, among other things, with the choice of a marketing channel, logistical planning, and relationships with clients. In this chapter the distribution of agricultural and food products, both basic characteristics and evolution, is analysed. Attention will be paid to the role of wholesale and retail companies in agro-food marketing.

THE ROLE OF DISTRIBUTION IN THE MARKETING OF AGRICULTURAL AND FOOD PRODUCTS

General characteristics of distribution

Distribution, as a marketing function, is concerned with adapting supply to demand as far as time and place are concerned. In marketing commodities, such as wheat, distribution can be considered the central marketing activity, whilst in the marketing of branded food products, distribution is a marketing instrument integrated within a marketing policy.

Narrowing the gap between the production and consumption of agricultural products in terms of time and place is essential in agro-food marketing. In The Netherlands, for example, in 1988, 28% of total food expenditure accrued to the primary sector, 27% to processing and 45% to the distribution sector (van Bruchem, 1992). Distribution is particularly important in agro-food

marketing for several reasons. First, agricultural products are grown in specific climatological zones or on special types of soil, while food consumption is concentrated in urban areas. Second, products are perishable and therefore require special transport and storage. Third, seasonal production has to correspond with a consumption pattern that extends over a long period of time. Finally, because there are many small product suppliers and consumers in agricultural and food markets, considerable effort goes into collection, regrouping and dispersing products. The share distribution assumes in total food expenditure is increasing, partly because of increasing consumer demand for services and a growing quality consciousness amongst consumers. In The Netherlands, for instance, the share of distribution in total consumers' food expenditure increased from 35% in 1961 to 45% in 1988 (Van Bruchem, 1992). Distribution of agricultural products can be described according to Alderson's 'sorting principle'. Alderson (1965) distinguished four successive types of sorting in marketing operations: (i) sorting out – breaking down a heterogeneous collection into several homogeneous groups; (ii) accumulation – building up larger homogeneous collections; (iii) allocation – breaking down homogeneous groups into smaller, homogeneous groups; and (iv) assorting – building up of heterogeneous collections which suit the needs of specific customers. The distribution of fresh apples is a case in point. Heterogeneous lots, harvested at individual farms, are broken down – often by the fruit grower himself – into homogeneous lots on the basis of grading and sorting schemes, and subsequently small homogeneous lots of the same standard are assembled by wholesalers into larger, homogeneous lots. Wholesalers transmit these homogeneous lots to other intermediaries and retailers, who break down homogeneous lots and build up heterogeneous collections of apples and other fresh fruit for the eventual consumer. Fulfilling these distribution functions creates time, place and possession utilities.

Differences in distribution in relation to type of product and stage of market development

The distribution of agricultural products differs according to the type of product and the stage of market development concerned. Methods of distribution are related to differences in perishability and exclusiveness, as well as the processing required by some agricultural products. Fresh produce such as fruit, vegetables and fresh meat need rapid and refrigerated transport in order to preserve product quality. In marketing commodities such as wheat and potatoes, storage is of central importance. Milk is processed into a large variety of dairy products, initiating a set of different marketing channels between producer and the eventual consumer.

Marketing sophistication also has a strong impact on the role of distribution. In less developed economies, for example, the distribution of agricultural products is primarily concerned with market transparency and the efficient performance of physical functions. The assembling of products by small wholesalers is often important in such a situation. In sophisticated

food marketing operations, such as the marketing of branded products by large dairy companies (e.g. Danone and Yoplait in France, Land O'Lakes in the USA or Südmilch in Germany), distribution strategy (choice of marketing channel) and physical distribution (coordinated planning of transport and storage) are extremely important elements in the marketing operation.

Companies specializing in distribution

Whilst every company performs a certain number of distribution functions, some companies, such as wholesalers, retailers and other intermediaries specialize in distribution. Wholesalers play a central role in many agricultural markets. In wheat marketing, grain merchants, such as Cargill in the USA, are global players. In flower marketing, wholesale companies such as the Dutch company Zurel operate internationally. Cocoa trading companies including Lonray, Inc. and Gill and Duffus, Inc. in the USA, and Kakao-Einkaufsgesellschaft (KEG) in Germany, for example, also operate globally. There are many agricultural wholesalers, however, who operate at a national or regional level.

Even more important in food distribution in Western agriculture is the way in which food retailers have specialized in distribution. Davis (1966) argues that in London at the end of the sixteenth and the beginning of the seventeenth century '... shopkeeping, as distinct from random trading and the keeping of a miscellaneous warehouse, was becoming an important occupation'. But, she argues, that at the same time,

... quite different changes were taking place on the other side of distribution, the selling of food. As a commodity, food was in a class by itself, for its trade was supervised with anxious care by the civic authorities, who dreaded, with almost superstitious intensity, any departure from traditional methods.

(Davis, 1966)

Even in the nineteenth century food was mainly retailed in the marketplace: 'Fruit and vegetables too ... had made little headway into fixed shops, ...' (Davis, 1966). The chain store emerged in the second part of the nineteenth century: 'Most authorities trace the beginnings of the chain system of retailing to the origin of The Atlantic and Pacific Tea Company in 1858' (Duddy and Revzan, 1953);

Thomas Lipton started a one-man grocery shop in Glasgow in 1872; within eighteen years he had seventy branches in London, and eight years later still they had shot up to 245 all over the kingdom.

(Davis, 1966)

Another breakthrough was the emergence of the supermarket in the 1930s.

The first period, prior to 1930, was characterized by few units, located principally in Los Angeles. In 1929 there were only 25 units in operation in that locality, and practically all were operated by independent proprietors. ... The

second period, 1930 to 1935, was characterized by a mushroom growth, influenced in no small measure by the depression and by attempts to overcome corporate chain competition ... One source estimates the growth as follows: 1934: 400, 1939: 4982, 1945: 9575.

(Duddy and Revzan, 1953)

Whilst they were of limited size and locally/regionally oriented until the 1950s, food retail companies subsequently became big business and started to operate at a national and international level. Large food chains play an important role in food distribution: in 1993 Kroger, for example, had a 5.7% share of the market in the USA; Metro/Asko in Germany had a market share of 4.1% in Europe; Leclerc in France had a 2.6% share of the European market; and Sainsbury in the UK had a 1.9% share in Europe (Heijbroek *et al.*, 1994). Retail chains have become important players in food distribution because of their large scale and well-planned marketing strategies. They have a strong bargaining power, require special services and product qualities from suppliers and are keen on low purchasing prices and discounts.

Wholesaling and retailing are analysed in more detail in the section on companies specializing in the distribution of food and agricultural products.

OBJECTIVES, FUNCTIONS AND STRATEGIES OF DISTRIBUTION

Distribution serves routinized consumption by making products available to the consumer in the right form and at the right time and place: consumers are provided with milk, bread and potatoes daily. In sophisticated markets distribution should also stimulate demand by making products available at a specific place and time. For instance, consumers will purchase a specific variety of fruit, such as avocados for example, or a specific dairy dessert only if their supermarkets carry the product; impulse buying of flowers will be enhanced if supermarkets carry these products. Creating demand by choosing appropriate marketing channels has become important for food producers.

Basic distribution objectives

The basic objectives of distribution in today's food markets can be summarized as follows:

1. Maximizing access to target groups. Making products available at the right time and place does not only preserve loyalty amongst existing customers, but also generates new clients.
2. Minimizing distribution costs. Because distribution costs make up a large proportion of total product costs they are extremely important as far as profitability and competitiveness are concerned. In this context the relationship between the costs of performing different distribution functions (transport and storage) within a company and in the channel will have to be considered: a total cost concept relevant for the marketing channel as a whole is in order.

3. Sufficient bargaining power. A company must have bargaining power *vis-à-vis* its partners in the marketing channel in order to receive a 'fair' share of the consumers' dollar.

These distribution objectives lead us to the following strategic questions:

1. Which marketing channels should be chosen and which marketing policies should be followed *vis-à-vis* these channels to get maximum market coverage? This question is extremely relevant for food companies. Many food producers, such as dairy companies, aim at intensive distribution and try to get big retail chains as their customer by outperforming competitive suppliers in one or more of the marketing instruments – product quality, logistical service, or price. Agribusiness companies which supply farmers with the means of production and services also face the strategic question of channel choice. For instance, compound feed mills compete for the clientele of efficient large farms and are less interested in small ones, which might fade away in the future.

2. Which logistical plan realizes the desired customer service at the lowest cost? Food companies use logistical planning as a competitive weapon. The marketing of Chiquita bananas provides an example of a product which has a strong market position because of effective and efficient logistics, amongst other things.

3. Which type of relationship should a company develop with its partners in order to prevent one participant in the marketing channel having excessive market power? Cooperatives are institutions partly set up to strengthen the bargaining power of farmers in the marketing channel.

Distribution functions

Distribution objectives are attained by performance of the *exchange functions*, buying and selling, the *physical functions*, storage and transport, and the *facilitating functions*, market information, grading/sorting and credit delivery. Performance of these marketing functions is facilitated in agricultural markets by a good infrastructure of roads, railway systems, communication systems, and markets.

Exchange functions

Buying, selling and price formation are important to every exchange process. These functions are important in the marketing of agricultural commodities, such as wheat, corn, rubber and tobacco. Special market institutions, including auctions and futures markets, have been set up in order to perform exchange functions in the marketing channel more effectively and efficiently. In marketing differentiated food products, such as branded products, exchange functions are performed by the salesmen employed by food companies or by wholesalers in direct contact with the buying agents from retail companies.

Physical functions

Storage and transport are core elements in distribution processes. In this section they will be discussed separately.

Storage Whether or not a company in the marketing channel of an agricultural commodity will hold stocks or not depends on its relative cost advantages and on strategic considerations. In comparison to farmers, wholesalers or specialized warehouse companies may realize economies of scale in holding stocks. By holding stocks a wheat merchant can serve his clients better, particularly if there is a sudden change in market demand.

Stocks of raw materials/final products enhance and ensure a smooth production process and a high level of customer service. However, the Just-In-Time (JIT) concept argues that stocks are an expensive nuisance and they hide problems in the planning of production and logistics. Companies should avoid stocks and produce the necessary quantity of products and deliver them at exactly the right time and place. Holding stocks for a long period may have a negative influence on the quality of products delivered to consumers. However, apart from seasonality in production, there are various other reasons for keeping stocks of food and agricultural products. These include a stochastic consumer demand and a stochastic delivery time in the distribution process.

A need for efficient and effective storage has stimulated the development of inventory models. The Economic Order Quantity (EOQ) model, for example, is a simple model that minimizes inventory costs. This model assumes a deterministic constant product demand, a deterministic lead time, no back ordering costs, fixed inventory costs per unit per time period, arrival of the order quantity at a particular point in time, fixed ordering costs per order, order quantity employed as the defining parameter, no side constraints to the Economic Order Quantity and no interaction between inventory costs, transportation costs and/or production costs.

The model is specified as:

$$TC = \left(\frac{Q}{2}\right)c_s + \left(\frac{c_0}{Q}\right)D \quad (16.1)$$

where: TC = total inventory costs per time period; Q = order quantity; c_s = carrying costs per unit per time period; c_0 = ordering costs per order; D = product demand per time period.

The first term of Eqn 16.1 specifies storage costs per time period, since $Q/2$ is equal to the average stock per time period. The second term of Eqn 16.1 specifies the ordering costs per time period since Q/D is the time in which the order expires. The Economic Order Quantity minimizing total inventory costs, Q_v can be derived by equating dTC/dQ , the first derivative of Eqn 16.1 with respect to Q , to zero. This will be a minimum, if the second derivative of TC with respect to Q is positive:

$$\frac{dTC}{dQ} = \frac{1}{2} c_s - \frac{c_0}{\frac{Q^2}{D}} = 0 \quad (16.2)$$

$$\frac{d^2TC}{dQ^2} = \frac{2c_0D}{Q^3} > 0 \quad (16.3)$$

$$Q_0 = \sqrt{\frac{2c_0D}{c_s}} \quad (16.4)$$

Note that in the case where $Q = Q_0$, total carrying costs per time period, $(Q/2) c_s$, and total ordering costs per time period, $C_0/(Q/D)$, are equal:

$$TC = \sqrt{\frac{c_s c_0 D}{2}} + \sqrt{\frac{c_s c_0 D}{2}} = \sqrt{2 c_s c_0 D} \quad (16.5)$$

The following example illustrates the procedure. Carrying costs per unit per month = US\$0.5 per month; ordering costs per order = US\$5; product demand per month = 500 items per month:

$$Q_0 = \sqrt{\frac{2c_0D}{c_s}} = \sqrt{\frac{(2 \times 5 \times 500)}{0.5}} = 100 \text{ items} \quad (16.6)$$

The assumptions made in the EOQ model are often not realistic and have to be mitigated, and a number of extensions of the EOQ model have been developed which take better account of real life situations (see, for example, Tersine, 1988; Anderson *et al.*, 1991).

Transport The transport decisions made by a marketing organization can be divided into three categories: (i) choice of transport mode; (ii) whether or not transport should be contracted out; and (iii) the method used in planning transport. Decisions on these issues are often interrelated.

The choice of a transport mode is based on a trade-off between desired customer service and transportation costs. A comparison of different transport modes on a number of characteristics is given by Bowersox *et al.* (1986) (Table 16.1).

Transport by truck is the rule for fresh agricultural products, because its performance in terms of availability, speed (flexibility) and frequency is comparatively good. Many commodities such as wheat, corn and soybeans are transported by ship and rail, which are particularly competitive in terms of capability and costs.

The choice between own transport and contracting transport depends on the customer service and transport costs realized by both alternatives. Own transport may require substantial investment on the part of a food company, contracting out does not require this. A freight company can operate at full capacity by assembling freight from various suppliers, own transport of a food company cannot do this. Generating backload will be more difficult for a food company with its own transport than for a freight company. At the same time, a freight company that operates internationally may

Table 16.1. Ranking of five basic transportation modes on five operating characteristics (source: Bowersox *et al.*, 1986).

Operating characteristic	Transportation mode				
	Rail	Highway	Water	Pipeline	Air
Speed	3	2	4	5	1
Availability	2	1	4	5	3
Dependability	3	2	4	1	5
Capability	2	3	1	5	4
Frequency	4	2	5	1	3

be in a better position to innovate methods of transportation than a medium-sized food company with its own transport. An advantage of own transport for a food company is that it makes it possible to take quick decisions on transport, which is beneficial both in terms of customer service and product quality. Own transport also offers food marketers more opportunities for making personal contacts with clients.

There is substantial difference between countries in the importance of contracting out logistical services to third parties. Cooper *et al.* (1994) quote a study from 1989 reporting that specialist distribution contractors are prominent in UK grocery multiples (44%), of some importance (17%) in German and French multiples, but are practically non-existent in Spain and Italy.

Transport planning is a core element in logistical management. Planning procedures have become more sophisticated because of advances in Information Technology (IT) and in decision methodology. A well-known planning model is the transportation model: how to allocate supply locations S_i ($i = 1, \dots, m$) to demand locations D_j ($j = 1, \dots, n$) in order to minimize transport costs. A dairy company (mixed feed company) for example has m plants or warehouses which serve n shops/distribution centres (farms). Let us assume that the capacities of the supply locations S_i , $Q_{i,0}$ and the requirements of the demand locations D_j , $Q_{0,j}$ per time period are given. Also it is assumed that the total capacity of supply locations $\sum_i Q_{i,0}$ equals total requirements of demand locations $\sum_j Q_{0,j}$, that transportation costs per unit from S_i to D_j , $c_{i,j}$ are fixed and independent of the quantity supplied and that supply locations S_i and S_k ($i, k = 1, \dots, m$) can substitute each other. The question is how to assign transport routes to supply locations, S_1, \dots, S_m such that requirements $Q_{0,j}$ of demand locations D_1, \dots, D_n are satisfied and total transportation costs $\sum_{i,j} Q_{i,j} c_{i,j}$ are minimized. This decision problem can be solved by linear programming, more specifically by the transportation problem (see, for example, Anderson *et al.*, 1991).

Other well-known transportation models are network models. One problem involves determining the shortest route from a supply location through a network of roads to a client. Network models and dynamic programming are used to solve such problems (see, for example, Anderson *et al.*, 1991).

Another set of transportation problems are routing problems. For instance, how to combine customers when planning routes for a number of vehicles that supply these customers from one location, such that: (i) total transportation costs are minimized; (ii) the requirements of the demand locations are satisfied; and (iii) the capacity constraints of the vehicles are not violated. The 'Savings' method is used to solve this problem (Bowersox *et al.*, 1986). A case in point is a mixed feed plant planning its feed transport to a fixed number of poultry farms.

Facilitating functions

Important facilitating functions in distribution are standardization, information and credit delivery. In developing economies in particular, poor performance of facilitating functions often seems to be the bottleneck in the distribution of farm products.

Standardization Grading and sorting schemes have been introduced for many agricultural products. For instance, in the EU for fresh fruit and vegetables three classes, E(extra), I and II are distinguished on the basis of product quality, sorting, packaging and indication. A lower class III has been barred from normal marketing channels since 1 May 1988 (LEI-DLO, 1992). The use of grading and sorting schemes makes market supply more transparent and decreases the need for a physical inspection of goods. Well-graded products supplied by different farmers can be assembled in one lot, and this is particularly advantageous for logistical efficiency.

Agricultural marketers, both wholesalers and food companies, increasingly differentiate products beyond what is possible by grading and sorting schemes, by specific product attributes, packaging, or (inter)national brands. Standardization of packaging, especially where master cartons are concerned, contributes to logistical efficiency. Great efforts have been made in this field, but much has to be done yet. The increasing use of containers in distributing food and agricultural products draws attention to the importance of standardization in this field, such as the standardization of containers in the international pot plant trade.

Market information Market information tells producers and traders where and when there is a demand for a specific product. As such it is an essential ingredient in every distribution operation. In less-developed economies this information is scarce and setting up market information services is often a first step towards effective and efficient distribution.

Commodity exchanges, wholesale markets and auctions supply information on quantities sold and their prices. Various industrial bodies, such as marketing boards, statistical offices and individual companies collect and disseminate market information. Strong competition, rapid innovation and concentration in the food industry have stimulated the need for more precise market information. Advances in Information Technology (IT) can serve distribution in this respect. The Universal Product Code (UPC) was introduced in the USA by the supermarket industry in 1974 and Europe followed

suit with the European Article Numbering Association (EAN). Scanning bar codes has led to speeding up checkouts in supermarkets and facilitated the registration of inventory level. Having begun with packaged dry groceries, bar codes are now invading the fresh produce market too.

Electronic communication in food distribution is increasing. In the Videotex system a customer, such as a supermarket organization for example, has the opportunity of entering by terminal or PC the supplier's computer-based information system. The Electronic Data Interchange (EDI) communication is organized by automated electronic exchange of structured information between computers of different organizations. The important method of standardization in EDI is Electronic Data Interchange For Administration, Commerce and Transport (EDIFACT) and for agriculture, Agricultural Data Interchange Syntax (ADIS). Better and more rapid information exchange between producer and customer has decreased the costs of order entry and processing and improved customer service because of the continuous information available on inventory levels. A full discussion of the role of market information systems will be found in Chapter 9.

Credit delivery Credit delivery advances a smooth product flow through the marketing channel. By credit delivery, suppliers offer clients the opportunity of buying a product when they need it instead of postponing their purchase. Farmers may be better able to produce at the right time if they have received credit from wholesalers. The reverse side of the coin is the possible dependence of farmers on a wholesaler. Cooperatives have been set up and one of their objectives was to avoid this credit trap in marketing of agricultural products.

Final remark

The performance of distribution functions has improved because of better planning methods and more advanced distribution technology. Logistical management, the integrated planning of purchasing of inputs, of materials management in the factory and of the physical distribution of final products, is becoming increasingly important (see, for example, Bowersox *et al.*, 1986).

Distribution strategy

The core decision in a distribution strategy is the choice of marketing channel. Access to the target group, distribution efficiency and channel power are important decision criteria in this context. Basic strategies in choosing a marketing channel are:

1. Intensive distribution; sell your product through as many outlets as possible. This strategy is attractive for those food products that are regularly purchased (routinized buying), such as milk.
2. Selective distribution; choose outlets which offer adequate service with the product and whose image fits to the image of the respective product.

This distribution strategy is relevant for shopping goods and specialty goods, such as quality wines and luxuries, which are sold in specialty shops. This aspect has become more important since market segmentation became a popular strategy in food marketing.

3. Exclusive distribution; one retailer has the exclusive right to sell a product in a specific area. Whilst this strategy might be attractive for some durable products such as stylish furniture, it is not that important in food distribution.

The distribution strategy of food producers *vis-à-vis* big retail chains is evolving towards relationship marketing in which the choice of a specific marketing channel is augmented with additional marketing activities such as logistical services, joint promotion programmes and sometimes even special product development. In this way distribution policy is integrated into the total marketing policy of food and agribusiness companies.

COMPANIES SPECIALIZING IN THE DISTRIBUTION OF FOOD AND AGRICULTURAL PRODUCTS

Distribution functions are either performed by farmers and food companies themselves or are transferred to companies, such as wholesale and retail companies, which specialize in carrying out distribution functions. Having described wholesale and retailing generally in the section on companies specializing on distribution, we will now elaborate their function in the distribution of food and agricultural products.

Wholesaling

Wholesale companies assemble, regroup and dispatch farm products to the processing industry or to retailers. They are more effective distributors than farmers because of their intimate market knowledge and because they handle large product volumes. However, a wholesaler is not always more efficient in moving goods through marketing channels than farmers or the food industry. In large farms there is less need for wholesalers to assemble farmers' products. For example, there is less need for wholesalers to assemble eggs in a market supplied by poultry farms that have 100,000 laying hens per farm than in a market supplied by mixed farms with a flock of 300 laying hens. Wholesale companies can specialize in one product group, region, or in one or more specific functions.

Various market developments influence the wholesale marketing of food and agricultural products which include: (i) concentration in food industry, retail trade and agriculture; (ii) advances in communication technology and logistical procedures; and (iii) a continuous search for better product quality and more service to the final consumer. As a result various food producers and retail chains abstain from using the services of wholesale companies.

Wholesale companies have responded in different ways to these threats and opportunities. Some wholesalers contract production from farmers or engage in production themselves (backward integration). Others have developed special relationships with retailers, as in wholesaler-sponsored voluntary chains, for example where wholesalers cooperate with independent retailers on the basis of a specific retail formula (forward integration). Another reaction of wholesalers to market developments has been to specialize in specific distribution functions. Cash and carry wholesalers specialize in keeping a broad assortment but avoid product delivery, credit delivery and giving much advice to clients. They compete on the basis of low prices. Makro, the international wholesale chain, is an example of this. In The Netherlands and in Germany cash and carry wholesalers also operate in the market for ornamentals.

Truck jobbers specialize in transport, carry a limited assortment and have low overheads. They are low-cost traders characterized by their low prices and they operate in areas such as perishables (fruit, vegetables and flowers). Brokers, who act as intermediaries between producers or country shippers on the one hand and wholesalers/retailers on the other hand, specialize in the functions of exchange and market information. Agents, who sell on behalf of a specific producer, concentrate on selling without taking market risk. Some wholesalers specialize in specific products, like exotic fruits, special cheeses or wine, on specific regions such as Eastern Europe, or in special types of clients such as hotels/restaurants, for example. Others react to current market developments by trying to become/remain strong, full-service wholesalers making use of their superior market knowledge, international relationships with suppliers and buyers, and international logistical networks.

Retailing

The strategy and structure of food retailing will be analysed along two dimensions: retail operation and retail organization.

Retail operation

Food retailing began with selling at markets or by visiting consumers and selling on their doorstep. Today, the fixed outlet has become the dominant type of retail outlet. From a mixture of selling and handicraft at the beginning of this century, food retailing has become a full-scale marketing operation dominated by large food chains. Food retailing can best be understood by analysing the role played by the basic marketing instruments – product (service), price, promotion and distribution (service) – in retailing.

Product Food retailers carry food assortments and offer services which correspond to the needs of their target group. For instance, supermarkets carry a complete assortment of everyday food products and an assortment of frequently purchased durables in order to serve the general food consumer.

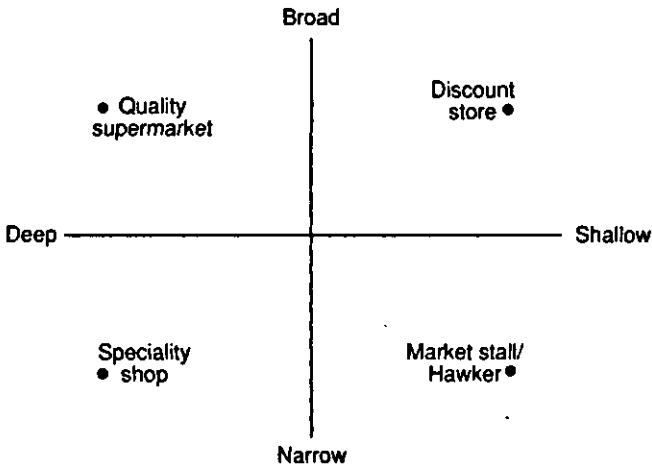


Fig. 16.1. Location of specific types of food retailing on the assortment dimensions 'Broad - Narrow' and 'Deep - Shallow'.

Specialty shops carry a narrow and deep assortment of food products, focusing on the specific needs and wants of consumers.

Basically, the marketing policies of food retailers and the types of retail shops that result can be classified on the basis of the product assortment. The two assortment dimensions are 'Broad - Narrow' and 'Deep - Shallow'. The first dimension represents the need categories of consumers to be satisfied, the second dimension represents the degree of consumer satisfaction in terms of the quality and variety within that need category (Fig. 16.1).

Intermediate positions on these two dimensions result in a great diversity of food shops. For instance, some supermarkets carry a deep assortment in a limited number of departments, such as bread and other produce. Food shopping is not only a necessity but also fun. As a result the atmosphere in the shop has become important in food retailing.

Price Food retailers try to build an attractive 'price image'. Both the general price level (the strategic component of pricing) and special offers (the tactical component of pricing) are important. Roughly speaking three categories of retail price strategy can be distinguished: (i) low prices, such as discounters and market stalls; (ii) high prices, such as specialty shops; and (iii) food shops, which do not see price level as basic to their marketing strategy, but go rather for competitive prices in terms of value for money.

Price and product policies are correlated. 'Low price' strategies are based on low purchasing prices, quick inventory turnover and limited service. Discounters and market stalls carry a shallow product assortment and offer limited service. Specialty shops carry a wide assortment of high quality products, offer considerable service, and charge high prices. Retail companies using competitive prices reflecting value for money will use sophisticated price policies in order to create a good price image.

It is important for a retailer to know whether some product prices are perceived by consumers as indicators of the general price level of the shop. According to Corstjens and Corstjens (1995, pp. 153, 154): 'Consumers form their impression of a retailer's relative price position in five main ways: (1) Direct price comparisons ... (2) Promotional activity ... (3) Store presentation ... (4) Direct communication ... (5) Positioning of own brands'. Weekly specials are a tactical instrument used by practically every food retailer. They reinforce 'low price' strategies of discounters, support the price image of supermarkets charging 'average prices' and mitigate the 'high price' image of specialty shops.

Promotion Promotion and information by food retailers are very important. Weekly specials are supposed to attract consumers. They also underpin the price image of retail companies. Food stores and supermarkets use daily papers and folders as a medium to promote low prices and weekly specials. National supermarket chains, selling substantial product quantities under own brand, also use national TV advertising in order to build a strong retail image. Progress in Electronic Data Interchange (EDI) will advance the use of electronic shopping. However, up till now communication by computer screen in combination with home delivery has not made a great deal of progress in food retailing.

Distribution Distribution as an element of the marketing mix of retail companies includes: (i) *time elements*, like opening hours and mail order/electronic shopping; and (ii) *place of shopping* such as store location and doorstep delivery. It also includes a great many service elements, such as parking facilities, service at check-outs and the handling of complaints. Some food retailers base their strategy on a specific way of distribution, such as home delivery (milkman, mail order houses) or store location (snack bars at railway stations).

Retail organization

Various organizations exist in food retailing. While there are still a large number of small independents, many food retail outlets are members of large chains.

Food retail chains In the second part of the nineteenth century the first food chains were set up: in the UK consumer cooperatives appeared in 1856 and multiples such as the chain set up by Lipton emerged after 1872 (Davis, 1966); in the USA the Great Atlantic and Pacific Tea Company was established in 1858 (Duddy and Revzan, 1953); Delhaize was formed in 1866 in Belgium; and Kaisers Kaffeegeschäft in Germany in 1890 (Muiswinkel, 1961). Retail chains have attractive features including: low transaction costs and the discounts that result from purchasing large quantities, greater opportunities for labour specialization, better logistical planning, economies of scale in advertising and more effective control mechanisms, including comparing the results of different outlets. In fact, food chains have become big business operating at an international scale (Table 16.2).

Table 16.2. Turnover of the two largest food retail companies in selected countries in 1993 (source: Heijbroek, 1994).

Companies	Turnover (US\$ billion)	Country
Kroger	22.4	USA
American Stores	18.8	USA
Ito-Yokado		Japan
Total	27.4	
Food	9.3	
Daiei		Japan
Total	22.7	
Food	6.8	
Metro/Asko	33.9	Germany
Rewe	22.7	Germany
Leclerc	20.1	France
Intermarché	20.1	France
Sainsbury	15.9	UK
Tesco	12.9	UK

Food chains have strengthened their position in food marketing channels by:

1. *Marketing policies* focusing on well-defined target groups, for instance quality conscious, environmentally concerned, price conscious or 'modern' consumers. Various characteristics of big retail chains are helpful in planning and implementing corporate marketing policies, such as marketing expertise, national/international coverage, electronic monitoring of product sales and of stocks, and own brand as a quality guarantee. Sainsbury, the food retail leader in the UK, for example, obtains 50% (Heijbroek *et al.*, 1994) to 60% of its turnover on its own brands¹.
2. *Efficiency improvement*, in particular by logistical planning and efficient use of shelf space. Improved planning methods, the use of bar codes and electronic data interchange and efficient distribution centres increase retail efficiency.
3. *Strong bargaining power vis-à-vis* food producers, because food retail chains command substantial market shares and because there is an overcapacity in Western food processing and agricultural production.

Many food chains have expanded into conglomerates including a diversified group of food chains and other food operations. For example, Metro/Asko and Rewe, big German food chains, include both supermarkets, discount stores and department stores in their organization, and Ahold, a large food retail holding in The Netherlands, has, apart from a number of supermarket chains, among others, also chains of liquor stores and drugstores under its control.

Another recent development in Europe is the emergence of alliances of food chains. Examples are Deuro Buying AG, Eurogroup, ERA (European

Retail Alliance), AMS (Associated Marketing Services), Bigs, Gedelfi and Interspar (Patt, 1993). These alliances are set up partly to secure purchasing advantages.

Voluntary chains Wholesaler-sponsored voluntary chains are the centrally managed retail organization of one or more wholesalers and a large number of retailers. They are supposed to combine the advantages of corporate food chains (low purchase prices, uniform corporate marketing policy and management) with those of independents (strongly motivated, well informed about and responsive to local conditions). The first voluntary chain, 'Red and White', was set up in Buffalo, USA, by the wholesaler Flickinger in 1922. In Europe various voluntary chains have been established, which have spread out internationally, such as Spar which was founded in 1932 by the Dutch wholesaler van Well. In many countries voluntary chains command substantial market shares. During the last 30 years, however, they have had to compete with corporate food chains. The relationship between wholesaler and retailer appeared in some voluntary chains to be loose and did not encourage the development of consistent marketing policies and the effective management of the organization.

Franchising Franchising in retailing implies a contractual relationship between a franchiser (producer or wholesaler) and franchisee (independent retailer). A franchiser authorizes the franchisee to become a member of a well-defined retailing system, which is characterized by specific marketing strategies and specific business planning, for example. A well-known franchise organization is McDonald's restaurants. McDonald's franchises local businessmen. According to Stern and El-Ansary (1992), McDonald's owns 30% of its USA outlets; the remainder are franchisees. A franchiser serves franchisees with his franchise concept, and with his marketing strategy in particular. Franchisees implement the franchise strategy in their outlets. They pay royalties, fees and initial charges to the franchiser for the services offered. The synergy of the franchise operation seems obvious: the independent retailer profits from the capacities, expertise and image of the franchiser and the franchiser can expand his business without having to invest heavily in store locations.

The relationship between wholesaler and retailer in a franchise system is often more specific, especially where market planning and implementation are concerned, than in a voluntary chain. As a result some wholesalers try to enlarge the competitive strength of voluntary chains by franchising. For instance, '... Wetterau (a major grocery wholesaler) authorizes IGA, Foodland and Red and White stores in the market it serves' (Stern and El-Ansary, 1992). Some specialized butchers and greengrocers have joint franchise systems in order to fight competition from corporate food chains. A number of corporate food chains have franchised the concept of their own outlets to a limited number of independents.

Cooperative structures Consumers' cooperatives in retailing were set up in the UK by the Rochdale pioneers in 1844 (Davis, 1966) and have become

important particularly in some Northern European countries. They were set up to confront the power of retailers who charged high retail prices but have lost their market share in the second half of this century. Retailer-sponsored cooperatives have been established in many countries, such as Topco in the USA (Stern and El-Ansary, 1992); Leclerc and Intermarché in France (Heijbroek *et al.*, 1994). While retailer-sponsored cooperatives differ from voluntary chains in their organizational set-up – backward versus forward integration – they have similar operational structures and marketing objectives.

Consequences for agricultural marketing

Concentration and market orientation make food retail companies more powerful in the marketing channel of food and agricultural products. It is often argued that retail chains are the captains of food marketing channels. However, various food companies, for example Danone, Heinz, Kraft, Nestlé and Unilever, still have substantial channel power on the basis of strong brands, international market coverage and innovative capacities. Even today many producers and wholesalers of agricultural and food products can make themselves attractive, sometimes even indispensable, partners for food chains by offering high product quality, excellent logistical services and competitive prices.

MARKETING CHANNELS AND MARKETING CHANNEL STRATEGY

The distribution decisions of companies, involved in the production and marketing of a product, crystallize out in the marketing channel of the product concerned. The shortest marketing channel is direct contact between producer and final consumer. Often a marketing channel consists of a number of successive intermediaries (agents, wholesalers and retailers) between producer and final consumer. Different approaches to the description and analysis of marketing channels will be discussed.

Description of marketing channels

Marketing channels can be described on the basis of:

1. Who is performing which marketing function in the channel? For example, are potatoes stored by farmers or by wholesalers? Does a fruit grower sell products himself or does he transfer this function to a marketing cooperative? Such a description of a marketing channel on the basis of the functions performed in the channel can make use of the classification: exchange functions (buying, selling, price formation), physical functions (storage, transport) and facilitating functions (sorting/grading, information, credit delivery).
2. The length of the marketing channel. A marketing channel can be described on the basis of the number and types of successive intermediaries in the marketing channel from producer to consumer.

3. The number of channel constructs. Bucklin (1970) has suggested three critical dimensions in the description of a marketing channel: flows, degree of aggregation of channel work into agencies and the number of levels of such agencies (see Mallen, 1977, for a similar approach).

Factors influencing the structure and evolution of agricultural marketing channels

It has been argued that distribution decisions are determined by criteria related to efficiency (costs), effectiveness (sales, margins) and bargaining power (share of the consumer dollar). These criteria are important in theories which try to explain the structure of marketing channels.

Channel theories which focus on channel efficiency

Alderson (1954) suggested that a middleman will emerge between producer and consumer if this will result in a smaller number of transactions: in the case of m producers and n consumers, a middleman will emerge in the marketing channel if $m \times n > (m + n)$. The practical value of this theory seems limited since the assumptions implied, such as no economies of scale in costs per transaction, every producer contacts every consumer, the product is homogeneous and market entry is free, are unrealistic in many circumstances.

Various authors argue that companies transfer marketing functions to other institutions in the marketing channel if this transfer will diminish marketing costs. In this context Stigler (1951) speaks of vertical specialization and Mallen (1973) about 'spin off'. Etgar and Zusman (1982) have modelled the emergence of middlemen in the marketing channel from the point of view that a middleman buys and sells market information. Bucklin (1965) argues that postponement and speculation are two factors that determine the structure of a marketing channel: '... postponement ... may be seen as a device for individual institutions to shift the risk of owning goods to another' and

The principle of speculation holds that changes in form, and the movement of goods to forward inventories, should be made at the earliest possible time in the marketing flow in order to reduce the costs of the marketing system.

(Bucklin, 1965)

Bucklin argues that

The minimum cost and type of channel are determined by balancing the costs of alternative delivery times against the cost of using an intermediate, speculative inventory. The appearance of such an inventory in the channel occurs whenever its additional costs are more than offset by net savings in postponement to the buyer and seller

(Bucklin, 1965).

Channel theories which focus on effectiveness and bargaining power

Channel structure is not only determined by efficiency criteria but also by

criteria of effectiveness and bargaining power. Does a marketing channel generate sufficient sales and an adequate gross margin? Two examples may illustrate this point:

1. Aspinwall's (1958) 'Characteristics of Goods Theory' explains channel structure on the basis of product characteristics. Aspinwall proposed five criteria for classifying goods: (i) replacement rate ('The rate at which a good is purchased and consumed by users in order to provide the satisfaction a consumer expects from the product'); (ii) gross margin ('The money sum which is the difference between the laid in cost and the final realized sales price'); (iii) adjustment ('The services applied to goods in order to meet the exact needs of the consumer'); (iv) time of consumption ('The measured time of consumption during which the good gives up the utility desired'); and (v) searching time ('The measure of average time and distance from the retail store') (Aspinwall, 1958). Goods that score high on the first criterion and low on the other four, so-called 'red goods', will be marketed by intensive distribution and consequently their marketing channels will include one or more middlemen. Goods, having opposite ratings on the five criteria, so-called 'yellow goods', will often be sold directly to the customer, without the interference of a middleman. Many agricultural/food products are 'red goods' and as a result will be distributed indirectly. In fact, retailers and wholesalers play an important role in agricultural marketing channels. However, developments in food retailing, such as concentration and increasing sales of own brand have fostered direct sales from food producer to retailer that exclude wholesalers. It demonstrates the partial character of analysing marketing channels on the basis of Aspinwall's approach.

2. Stern (1969) and others have applied behavioural concepts such as power, cooperation and conflict to the analysis of marketing channels. Drawing on the work of French and Raven (1959) they distinguish the following sources of power: 'rewards, coercion, expertise, reference, and legitimacy' or, more concisely, coercive and non-coercive sources of power (Hunt and Nevin, 1974). Analyses have been made, for example, of the use of power within a franchise channel of distribution (see Frazier and Summers, 1986) and of channel domination and countervailing power in distributive channels (Etgar, 1976).

Marketing channels as a system

Marketing channels can develop into a system of producers plus middlemen pursuing a coordinated marketing policy *vis-à-vis* final consumers. Such a development is also relevant for agricultural markets. Coordination of marketing policy in the channel may concern total marketing policy for a product or specific marketing elements only, such as product quality or logistical operations. Various economic and marketing theories have contributed to our understanding of marketing channels as a vertical sys-

tem. Transaction costs theory and the analysis of vertical marketing systems have proved to be particularly useful.

Transaction costs theory as developed by Williamson (1975, 1985) seems relevant to the analysis of agricultural marketing channels. According to this theory, dimensions of transactions, such as asset specificity, uncertainty/complexity and frequency, influence the governance structure of transactions, and as a result the structure of a marketing channel. If asset specificity and uncertainty are high, for instance, vertical integration is attractive, but if both are low spot contracts might be preferred (Douma and Schreuder, 1991).

In marketing agricultural commodities such as wheat, asset specificity and uncertainty/complexity seem low and transactions between actors in the channel are frequent. As a result spot contracts dominate the conventional marketing channels through which agricultural commodities move. However, marketing chicken meat as a branded product, for example, may require coordination of policies in the marketing channel by contract or vertical integration.

Marketing theory distinguishes between: (i) administered vertical marketing systems in which marketing is coordinated between channel companies by deliberation without contracts; (ii) contractual vertical marketing systems, in which marketing operations are coordinated by contracts; and (iii) corporate marketing systems, which are coordinated by the vertical integration of companies. All three types of vertical marketing systems occur in marketing agricultural and food products. Some retail chains have worked out programmes for product quality improvement, which are based on coordination of production and marketing planning between retailer and food producer (and/or farmers) without binding contracts. Marketing channels for fruit and vegetables for the canning industry and marketing channels for pigs and chickens are often coordinated by contractual relationships concerning product quality, delivery time and price. Examples of corporate vertical marketing systems are dairy cooperatives which have integrated cheese wholesale companies (forward integration), and food retail companies which have integrated production plants, such as bakeries (backward integration).

CONCLUDING REMARKS

This chapter has shown that distribution is a dynamic field of agro-food marketing. Recent developments in the environment of the agro-food system suggest that distribution will remain a dynamic marketing subject in the future. Amongst others, the following developments seem important in this respect:

1. Societal concern about sustainability will stimulate green logistics, i.e. focusing on energy savings and on reduction of pollution and waste. This concern and overcrowded highways, together with other things, will enhance the use of combined transport, such as road-rail services.
2. Government deregulation and the abolishment of international trade barriers within the context of the World Trade Organization will internationalize

agricultural markets and logistical networks even more.

3. The growth rate of gross domestic product of OECD countries and of Third World countries, estimated to be 2.75% and 6.25% respectively in 1995 (Centraal Planbureau, 1994) will stimulate international trade of agricultural and food products.

4. Improvements in IT, amongst others the advance of the electronic highway, will improve communication both between businesses and between households and businesses. Consequently the flows of physical goods and the flow of information can better be uncoupled, which is advantageous for logistical efficiency.

So, it looks as if distribution, the mother of agricultural marketing, will remain the bright and breezy lady of agricultural marketing in the future as well.

NOTES

1. *The Economist* (1995) Change at the check-out. A survey of retailing. March 4, p. 8.

FURTHER READING

- Cooper, J., Browne, M. and Peters, M. (1994) *European Logistics, Markets, Management and Strategy*, 2nd edn. Blackwell Publishers, Oxford.
- Corstjens, J. and Corstjens, M. (1995) *Store Wars, the Battle for Mindspace and Shelfspace*. J. Wiley & Sons, New York.
- Davies, G.J. and Brooks, J.M. (1989) *Positioning Strategy in Retailing*. Paul Chapman Publishing, London.
- Gosh, A. and McLafferty, S.L. (1987) *Location Strategies for Retail and Service Firms*. Lexington Books, Lexington, MA.
- Stern, L.W. and El-Ansary, A.I. (1992) *Marketing Channels*, 4th edn. Prentice-Hall International Editions, Prentice-Hall, Inc., Englewood Cliffs, NJ.
- Tersine, R.J. (1988) *Principles of Inventory and Materials Management*, 3rd edn. North-Holland, New York.

REFERENCES

- Alderson, W. (1954) Factors governing the development of marketing channels. In: Clewett, R.M. (ed.), *Marketing Channels for Manufactured Products*. Richard D. Irwin, Inc., Homewood, IL, pp. 5-34.
- Alderson, W. (1965) *Dynamic Marketing Behavior: A Functionalist Theory of Marketing*. Richard D. Irwin, Inc., Homewood, IL.
- Anderson, D.R., Sweeney, D.J. and Williams, T.A. (1991) *An Introduction to Management Science*, 6th edn. West Publishing Company, St Paul, MI.
- Aspinwall, L.V. (1958) The characteristics of goods and parallel systems theories. In: Kelley, E.J. and Lazer, W. (eds), *Managerial Marketing*. Richard D. Irwin, Inc., Homewood, IL, pp. 434-450.
- Bowersox, D.J., Closs, D.J. and Helferich, O.K. (1986) *Logistical Management*, 3rd edn. Macmillan Publishing Company, New York.
- van Bruchem, C. (ed.) (1992) *Landbouweconomisch Bericht 1992*. LEI-DLO, 's Gravenhage.

- Bucklin, L.P. (1965) Postponement, speculation, and the structure of distribution channels. *Journal of Marketing Research* 2, 26–31.
- Bucklin, L.P. (1970) The classification of channel structures. In: Bucklin, L.P. (ed.), *Vertical Marketing Systems*. Scott, Foresman and Company, Glenview, IL, pp. 16–32.
- Centraal Planbureau (1994) *Macro Economische Verkenning 1995*. Sdu Uitgeverij Plantijnstraat, Den Haag.
- Cooper, J., Browne, M. and Peters, M. (1994) *European Logistics. Markets, Management and Strategy*, 2nd edn. Blackwell Publishers, Oxford.
- Corstjens, J. and Corstjens, M. (1995) *Store Wars, the Battle for Mindspace and Shelfspace*. J. Wiley & Sons, New York.
- Davis, D. (1966) *A History of Shopping*. Routledge & Kegan Paul Ltd, London.
- Douma, S. and Schreuder, H. (1991) *Economic Approaches to Organizations*. Prentice-Hall International (UK) Ltd., Hemel Hempstead.
- Duddy, E.A. and Revzan, D.A. (1953) *Marketing, an Institutional Approach*, 2nd edn. McGraw-Hill Book Company, Inc., New York.
- Etgar, M. (1976) Channel domination and countervailing power in distribution channels. *Journal of Marketing Research* 13, 254–262.
- Etgar, M. and Zusman, P. (1982) The marketing intermediary as an information seller: A new approach. *Journal of Business* 55(4), 505–515.
- Frazier, G.L. and Summers, J.O. (1986) Perceptions of interfirm power and its use within a franchise channel of distribution. *Journal of Marketing Research* 23, 169–176.
- French, J.R.P. and Raven, B. (1959) The bases of social power. In: Cartwright, D. (ed.), *Studies in Social Power*. University of Michigan Press, Ann Arbor, MI, pp. 150–167.
- Heijbroek, A.M.A., van Noort, W.M.H. and van Potten, A.J. (1994) *The Retail Food Market. Structure, Trends and Strategies*. Rabobank Nederland, Utrecht.
- Hunt, S.D. and Nevin, J.R. (1974) Power in a channel of distribution: Sources and consequences. *Journal of Marketing Research* 11, 186–193.
- LEI-DLO (1992) *Tuinbouwcijfers 1992*. LEI-DLO, 's Gravenhage.
- Mallen, B.E. (1973) Functional spin-off: A key to anticipating change in distribution structure. *Journal of Marketing* 37, 18–25.
- Mallen, B.E. (1977) *Principles of Marketing Channel Management*. Lexington Books, Lexington, MA.
- Muiswinkel, F.L. (1961) *De Handelsonderneming*, 2nd edn. N.V. Noord-Hollandsche Uitgeversmaatschappij, Amsterdam.
- Patt, P.J. (1993) Internationalisierung im Einzelhandel. In: Irrgang, W. (ed.), *Vertikales Marketing im Wandel*. Verlag Franz Vahlen, München, pp. 81–95.
- Shaw, A. (1912) Some problems in market distribution. *Quarterly Journal of Economics* 26, 706–765.
- Stern, L.W. (1969) *Distribution Channels: Behavioral Dimensions*. Houghton Mifflin Company, Boston.
- Stern, L.W. and El-Ansary, A.I. (1992) *Marketing Channels*, 4th edn. Prentice-Hall International Editions, Prentice-Hall, Inc., Englewood Cliffs, NJ.
- Stigler, G.J. (1951) The division of labor is limited by the extent of the market. *Journal of Political Economy* 54, 185–193.
- Tersine, R.J. (1988) *Principles of Inventory and Materials Management*, 3rd edn. North-Holland, New York.
- Williamson, O.E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*. The Free Press, New York.
- Williamson, O.E. (1985) *The Economic Institutions of Capitalism*. The Free Press, New York.