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**Market surveillance  
for the food industry**

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## Executive Summary

1. We define market surveillance as the collection of information about variables which will allow inferences about the attractiveness of a company's present and future offerings. The attractiveness, in turn, will depend on the value customers perceive in a product relative to competing products and relative to its price. Such information on determinants of value perception and costs can be used in the strategy formulation of the company.
2. We define a market surveillance *system* as a set of methods/instruments to regularly select, collect, and process data about a market and its actors, with the aim of detecting changes in those long-term trends, which are expected to influence the attractiveness of a company's present and future offerings.
3. Different types of market surveillance systems can be distinguished based on the actors it covers (distributors/end users/competitors), whether it deals only with present or also with future offerings, which markets are covered, and how the data are collected (frequency/level of aggregation) and processed.
4. Market surveillance systems can be evaluated on their *validity* and their *appeal*. Validity is concerned with its ability to correctly predict the attractiveness of offerings. Appeal is the extent to which it motivates users to actually use it. Both validity and appeal are influenced by the way the information need of the company is assessed.
5. A qualitative study of a number of Danish food companies shows that all of them are engaged in market surveillance of some sort, but that none of them had a market surveillance system and that the design and usefulness of such a system are hard to imagine.
6. Four elements of a market surveillance system are distinguished: a market attractiveness module, a distributor module, a competitor module, and an end user module.
7. Distributor module, competitor module, and end user module are all concerned with characteristics of economic actors. We propose that three types of such characteristics are useful for a market surveillance system: decision-makers' cognitive structures, intraorganizational decision processes, and organizational resources.
8. For end users, cognitive structures can be measured by the instrument *food-related life style*, intraorganizational decision processes refer to family decision-making, and organizational resources to households' equipment with time and money.
9. For distributors, decision-makers' cognitive structures may be measured by an instrument termed *retail supplier evaluation style*, intraorganizational decision processes refer to retail purchasing routines, and organizational resources to distributors overall sales, profit, number of outlets etc.
10. For competitors, decision-makers' cognitive structures refer to their subjective key success factors, intraorganizational decision processes to managerial decision-making, and organizational resources to companies' scores on the market's key success factors.

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## 1. Market surveillance: A source of competitive advantage

In order to survive, companies interact with their environment. They procure materials, labour, and capital; they sell goods and services. These material and monetary interactions are founded on and complemented by informational interactions, which allow the company to adapt its activities to environmental conditions and to make plans for influencing the environment through strategic development. The strategic importance of these informational interactions has been recognized by academics for some time now, and it is argued that the strategy of a company can be no better than the information on which it is based (Beaumont & Beaumont, 1987; Fahey & King, 1977; Montgomery & Weinberg, 1979). Or, as expressed by Day and Wensley (1988, p.1): “Effective strategy moves are grounded in valid and insightful monitoring of the current competitive position coupled with evidence that reveals the skills and resources affording the most leverage on future cost and differentiation advantages”. Information can therefore be a major source of competitive advantage.

Superior business performance has two immediate causes: being able to produce goods and services in which customers see a superior value relative to price and relative to competing goods and services, and being able to do this at low relative costs. A company having such abilities is also said to have a positional advantage. Positional advantages, in turn, depend on the company’s skills and resources. On any market, some skills and resources will be more important than others in creating high perceived value and/or low relative costs. These skills and resources may be called the key success factors operating on this market (these arguments are elaborated in more detail in Day & Wensley, 1988; Grunert, 1990; Grunert & Baadsgaard, 1991; Grunert & Ellegaard, 1993).

This model of competitive advantage, which is shown in the upper part of figure 1, suggests that questions of business strategy can be grouped into two categories. The first one refers to questions on *how one should attain a positional advantage* - for example, by pursuing cost leadership or differentiation strategies - and which skills and resources will be needed for doing so. The second one refers to the question on *how a positional advantage is to be turned into business performance* - for example, by pursuing invest, hold, or harvest strategies. These two groups of strategic questions are shown in the middle part of figure 1.

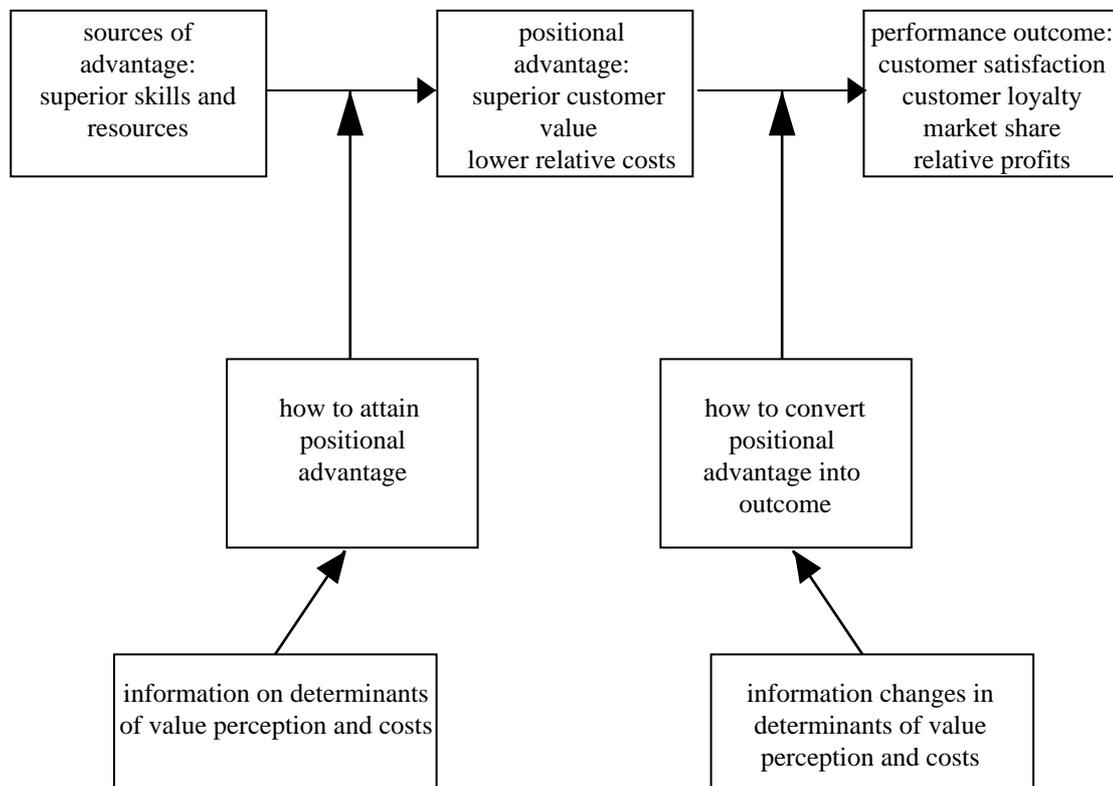
Answering both sets of questions presupposes information about the market environment.

The *first set* of questions about attaining positional advantage presupposes information about the determinants of costs and value perception. With regard to value perception, possible considerations are: Do customers in the market perceive differences in product quality? Are these differences horizontal or vertical? Which product characteristics contribute most to value perception? Do these evaluations mirror any general trends characterizing customer segments? Are customers price sensitive? What is the demand elasticity of price and quality variations, respectively? Relevant considerations with regard to costs refer mainly to competitors’ skills and resources. Are they more efficient in doing certain things than we are? Do they have resources (eg a technology, a locational advantage) which gives them a cost advantage?

The *second set* of questions adds the dynamic perspective to the first one. How will customers' value perception and its determinants change over time? In which skills and resources are competitors likely to invest, and what are the implications for costs? Is our product based on skills and resources which are idiosyncratic to the company and which competitors will therefore find difficult to emulate, or must we expect an imitation quickly? Such information will be useful in evaluating the sustainability of a present positional advantage, which, in turn, will guide decisions on whether to build, hold, or harvest a present position.

The process of collecting the type of information shown in the lower part of figure 1, namely, information about the determinants of perceived customer value and costs, we may call *market surveillance*. Put in another way, we can say that market surveillance is concerned with collecting information about variables which will allow *inferences about the attractiveness of a company's present and future offerings*.

Figure 1. Competitive advantage and market surveillance



Possession of this kind of information is in itself a resource contributing to competitive advantage. Furthermore, skills in defining the company's information requirements, and skills in interpreting and using the information available, will be sources of competitive advantage (Daft, Sormunen & Parks, 1988). On some markets, informational skills and resources may actually be key success factors themselves. This will especially be the case in markets with high degrees of turbulence, short product life cycles, and many product innovations.

At the same time, empirical studies suggest that many companies do not put much emphasis on information as a resource, and invest neither time nor money in collecting information systematically (Grunert, Nissen & Wildenhoff, 1993; see also our own empirical results later in this paper.) From an economics-of-information viewpoint, this suggests that the cost of collecting such information may be perceived as being too high in relation to the utility expected from having such information. This, again, may be related to the special nature of information as a commodity. The usefulness of any particular piece of information can be appreciated only after it has been obtained, ie after the costs in collecting it have been incurred. Evaluations of the usefulness of information before collecting it will necessarily be diffuse. Also, information, once collected, is difficult to retain ownership of; it may rapidly become a free good, and consequently everybody may hope that somebody else will incur the costs and collect the information leaving it to be used free of charge afterwards.

## 2. Market surveillance systems

Every company engages, in some way or another, in market surveillance. We propose to call it a market surveillance *system*, when such information is *regularly* collected by using specific *methods* or *instruments*, and when the procedures are organised in a formal set of activities. A computerised system is not required, though, before we can call it a *system*. We therefore propose the following working definition of a market surveillance system:

“A market surveillance system (MSS) is a set of methods/instruments to regularly select, collect and process data about a market and its actors, with the aim of detecting changes in those long-term trends, which are expected to influence the attractiveness of a company’s present or future offerings on that market.”

The central concepts in this definition will now be described in more detail.

### *A set of methods or instruments*

Everyday experience and observation of any business decision-maker will result in information that contributes to market surveillance. In addition, internal accounting, sales reports, and ad-hoc marketing research will, as a by-product, generate information that can be used for market surveillance. Market surveillance information, generated in this way is subject to various kinds of cognitive biases, is limited by its random nature, and is subjective in the sense that the knowledge generated is non-verifiable and may even reside in the person who collected it. We may call this *informally generated market surveillance*.

We call it a market surveillance *system* only when a set of methods/instruments has been purposely set up with the aim of generating knowledge about markets with a higher degree of objectivity. The methods may be many: surveys, guided observation by salespeople, systematic scanning of databases or of journals and newspapers, systematic expert interviews, Delphi techniques etc.

### *Selection of data*

Market surveillance is here defined as the collection of data about variables which allow inferences about the attractiveness of a company's present and future offerings. Hence, the data collected should, by way of experience or by theoretical reasoning, be relatable to the attractiveness of a company's present or future offerings.

In the first section of this paper we presented theoretical arguments for the fact that determinants of customers' value perception and of costs are the major groups of variables, which are related to the attractiveness of a company's present or future offerings. These can therefore be used as guidelines for selecting relevant data. Three units of analysis may be relevant in this context: customers, competitors, and the market as such. Customer characteristics may be determinants of customer value perception. Competitor characteristics may be determinants of costs. General market characteristics may determine both value perception and costs. Customer characteristics, competitor characteristics, and general market characteristics are thus three cornerstones to be included in a MSS. However, not any customer, competitor, or market characteristic is relevant - it must be relatable to the attractiveness of a company's present or future offerings. This gives us an effective screening device for distinguishing relevant from irrelevant data.

### *Regular data collection to detect changes*

A MSS aims at detecting relevant changes in the task environment. This will, if done properly, generate information which can be used as a strategic tool for planning and product development.

To detect *changes*, it is necessary to establish a certain level of knowledge about the area of interest first. It then becomes possible to discover deviations from this state. To detect changes furthermore requires a continuous collection of the same data or indicators. When changes are found, it may trigger further investigation, ie surveillance can result in search (Montgomery & Weinberg, 1979): investigations performed on an ad-hoc basis to clarify the changes discovered by the surveillance system. (The distinction between surveillance and research can also be found in, eg Sanderson & Luffman, 1988, and Michman, 1989).

### *Long-term trends*

Measuring the same variables continuously on a systematic basis permits the detection of trends. Measuring a set of substantially related variables in this way allows for an additional investigation of the validity of trends detected by looking at their interrelationship with other variables. Groups of variables moving together indicate strong trends.

Market surveillance can be restricted to trends based on the following arguments. First, future orientation is the essence of strategy formation and product development. As a consequence,

the emphasis of the environmental analysis should be on future developments (Sanderson & Luffman, 1988). Secondly, in surveillance, it seems appropriate to look at the environment in general rather than at single specific variables. As Ansoff and McDonnell (1990) argue, surveillance can be seen as a filter through which the information must pass on its way into the firm. They place much emphasis on decisions about the aggregation of data. The filter can be too wide and cause information overflow, or it can be too restrictive and thereby simplify the environment. The same considerations can be applied when viewing trends as groups of variables moving together. Trends give a general picture of environmental developments, and will, because of their higher level of aggregation, keep the information flow lower from the managers' point of view.

Working with trends requires a careful choice of the variables used, and of the methods applied in the data processing part of the system. The methods/instruments developed for the market surveillance system should be able to select the relevant indicators among the environmental variables available, and to aggregate them sufficiently.

#### *Data processing*

Finally, we also request that information should not only be *collected*, but also in some way *processed*, before we would want to call it a market surveillance system. In this way we make a distinction between data and information, where data is the unevaluated input into the system, and information (or intelligence) is the output resulting from processing (Fahey, 1989; Pearce, 1976).

#### *Different types of MSS*

We may distinguish different types of MSS depending on how selection, collection, and processing of information are handled.

The *selection dimension* may be characterised by the units of analysis, the type of offerings, and the type of market covered.

The *units of analysis* covered. We have identified markets, competitors, and customers as relevant units of analysis. Are all of these covered in the MSS, or does it concentrate on, eg competitors only? Are only immediate customers covered, like importers or retailers, or are end users covered as well? Are only immediate and present competitors covered, or are potential competitors covered as well?

The *type of offerings* covered by the system. These may be constrained to the company's present portfolio of offerings, or they may extend to more distant substitutes and potential areas of interest.

The *type of markets covered*. A system may be restricted to the most important active markets of a company, or it may contain a large number of potential markets as well. In the latter case, the MSS will also be used as a market screening device, where the information generated can be used in strategic planning as a tool to guide expansion decisions, eg which countries to enter, and which to stay out of (Baadsgaard et al., 1992).

The *data collection dimension* can be characterized by the following:

The *type of data* on which the system is based, ie primary data collected exclusively for the MSS (as a consumer survey), primary data collected in connection with other activities (as reports from salesforce), or secondary data (as data from official statistics or public databases).

The *frequency* with which the data are collected.

The *level of aggregation* of the data collected, for example how *product and company-specific* the data are. Even though it is required that all information collected should be relevant to explain and predict attractiveness of market offerings, factors may vary in whether they affect demand for a broad range of products (up to the general level of demand for, eg consumer products) or for the specific offerings of the company only.

The *data processing dimension* may be characterised by the type of processing undergone by the data. Data may be stored centrally or may be decentralized. They may undergo additional aggregation before further distribution. They may be analysed with regard to the detection of links or patterns, or may be distributed as raw facts (Montmery & Weinberg, 1979). How the data are distributed and communicated to decision-makers may vary all the way from formal to informal procedures, and from written reports to on-line databases.

### **3. Previous attempts to design market surveillance systems for the food sector: An example**

Here follows a brief description of an attempt to build a MSS for a food industry. The MSS was developed for the Norwegian fishing industry by researchers at the *Fiskeriteknologisk Forskningsinstitutt (ftfi)* in Tromsø (Hansen, Lines & Johansen, 1989). The development of this MSS happened in three phases:

- the definition phase, in which the information needs to be filled by the MSS were specified;
- the development phase, in which the system was designed based on the information needs specified;
- the design phase, where the physical design of a prototype was developed, tested, and adjusted.

In the first phase, personal interviews were conducted with respondents from fishing companies, who were asked to describe their actual use of market information and to characterise the expected future critical success factors for the sector (Hansen, 1989). One of the results from this investigation was that a general need for information on long-term trends and structural developments on the export markets of interest existed. The fishing industry was also found to be very fragmented (which was no surprise). As a result, many different information requirements were revealed. It was subsequently decided to select export agents and manufacturers of Norwegian seafood as the target group for the development of the prototype of the system.

In phase two, different sources of information were traced in order to fill the specified information need. All sources were secondary information sources. The development of a system consisting of 6 modules was proposed:

1. *Directory of seafood buyers*. A directory with relevant information about seafood buyers in selected export countries.
2. *Novel seafood products*. Information about product developments obtained from trade and marketing journals.
3. *"The Secretary"*. A collection of important addresses of various participants in the fishing industry, seafood producers, exporters, trade commissions etc.
4. *"The Monitor"*. Information about competitors, eg strategies, product development, resource management and financial strength.
5. *Information about resources*. An overview of competitors' resources, ie landings, inventories etc., with the aim of making forecasts of market supply for 2-3 months.
6. *Market Profiles*. General information about countries or markets of interest for new exporters: information about social conditions, the seafood market, regulations etc. (Hansen, Lines & Johansen, 1989)

In the third phase, a prototype was developed: a database where the information was stored in accordance with the above mentioned modules. It should be mentioned here that the last phase has not been carried out to its full extent, due to lacking financial support from the fishing industry. However, a prototype has been developed and tested, and was used to demonstrate the functions to the industry. Further information about the system design can be found in Hansen, Lines and Johansen (1989).

Even though this system did not enter the phase of continuous data collection, its concept corresponds to our notion of a MSS. It contains customer information, competitor information, and general market information. The directory of seafood buyers and the information on novel seafood products are relevant for customer value perception. The monitor and the information about resources are relevant for competitors' skills and resources. Market profiles are potentially relevant for both customer value perception and competitors' costs, skills, and resources.

The secretary would not be considered part of a MSS according to our definition. Phase 1 of the project had shown, however, that the companies were very interested in this type of concrete factual information, and it was hoped that the inclusion of such information would contribute to the system's acceptance. The inclusion of such non-MSS information may create synergy effects, lower costs of an information system, and increase its perceived usefulness.

#### **4. Perceived and derived information needs in the company**

If the aim of a MSS is to give information on trends that are expected to influence the attractiveness of the offerings a company intends to sell on a market, then the value of a MSS to a company will depend on two main criteria. The first is to which degree the MSS actually covers those trends which have the best predictive power with regard to the target variable, ie future sales possibilities. We may call this the *validity* of the MSS. The second is the extent to which the MSS motivates actual usage. This we may call the *appeal* of the MSS. At least at first sight, these two factors seem to be related.

Numerous studies on the reasons for the use or non-use of information systems have been made, and many factors have been discovered influencing use, such as data organisation and presentation, data availability, user requirements, and implementation processes (Johnston & Woodward, 1988). Our main interest here, however, is how the selection of information affects the use of the system. In general terms it can be argued that information use will be determined by the costs and benefits a decision-maker expects from such use.

Costs can be monetary, time, and mental costs. They will depend on how the information is collected, processed and administered, and will not be discussed further here.

The perceived benefits of information use can be related to whether a decision-maker perceives that the information fills an information need. Ascertaining perceived information needs, and basing the design of a MSS on these, is therefore a means advocated to increase the appeal of information systems. One way to ascertain decision-makers' perceived information needs is to conduct personal interviews with the persons involved about which information is available and which is needed, and then interpret the gap as the perceived information need (Fuld, 1991). This simple procedure contains, however, a number of problems:

- Perceived information needs will naturally depend on the user group envisaged. The higher the intended user group is placed in the organisation, the more unspecified and unstructured are the decisions where the users may intend to seek help from a MSS. The higher the user group is placed in the organisation, the more difficult it will therefore also be for the potential users to specify their information requirements, because they may find it difficult to anticipate which information they will need in a future situation.

- Information determined in this way will be related mostly to the more structured problems arising more frequently, because it is easier to specify information needs for them. The information will then be less suitable for more unstructured, more rare, more strategic decisions.
- The scope of ‘needed’ information can be enormous. Possible usage situations can be envisaged for the most strange kinds of information, once one starts thinking about it. It has therefore been suggested (Montgomery & Weinberg, 1979) to rank factors about which information is to be collected according to the importance of a change in the factor, the likelihood of a change in the factor, and the costs if a change occurs in the factor.
- Perceived information needs measured in this way will be very dependent on situational factors. A problem of concern to the decision-maker at the time of the interview will be mirrored overproportionately in the result.

Direct questioning about perceived information needs will therefore not usually lead to a MSS which fulfils the criteria of validity and appeal. Still, it is a useful starting point when developing a MSS, because it gives an initial understanding how the informational situation is perceived in the company.

In order to overcome some of these problems, it has been suggested not to ask directly for information wanted, but to ask for what decision-makers perceive as critical success factors in a company, and to base management information systems on these (Daniel, 1961; Rockart, 1979; see also Grunert & Ellegaard, 1993). This is meant to assure that problems and decisions will be viewed from a top-down approach, starting with a conceptual identification of managers’ key concerns.

The critical success factor concept is described by Boynton as “those few things that must go well to ensure success for a manager or an organization” (Boynton & Zmud, 1984, p.17). The aim is to characterize those areas where information might be critical to success (Rockart, 1979). Attempts are therefore no longer made to ask managers directly about *perceived* information needs. Instead, they are asked about their perceptions of causes of ‘success’ or other, more specific target variables. The information need is then *derived* from the answers given.

Arguments for using the critical success factor concept have mainly been based on that it will increase *appeal*. It is believed that answers obtained in this way will be more focused on main determinants of the target variables, will be less affected by situational factors, and will be more geared towards strategic applications. High-level decision-makers ought therefore to perceive these information systems, which are based on these answers, as appealing.

As for the *validity* of a resulting MSS, it obviously rests on the extent to which the decision-makers interviewed understand the causes of the target variable (eg future company sales, new product success) correctly. There are many reasons why decision-makers’ perceptions of the

causes of success may be biased (Grunert & Ellegaard, 1993), and the application of scientific criteria to the development and testing of marketing theories is an attempt to generate knowledge to overcome this very phenomenon. Information needs may therefore also be derived from well-established theories about causes of the target variable. Doing this will increase the validity of a MSS. At the same time, it could potentially decrease its appeal, if or when the theoretically derived determinants of the target variable deviate from what the user believes to be the major determinants. There may therefore be a trade-off between validity and appeal. This trade-off will be larger, the more decision-makers' perceptions of the causes of a target variable deviate from the actual causal relationships.

We would like to argue that the design of a MSS should be based both on perceived and derived information needs, and that marketing theory should play a vital role for the inclusion of information. The analysis of perceived information needs gives a basic understanding of the kind of informational environment in which decision-makers work. Marketing theory has to be drawn upon in order to isolate what can be regarded as main determinants of the target variable, like the attractiveness of present and future offerings on export markets. These two inputs together should guide the design of a MSS.

In the present project, the construction of a MSS for the food industry is based on these two sets of input. First, we conducted a series of interviews with Danish food companies in order to ascertain their present market surveillance activities, their perceived information need, and their wants with regard to a possible MSS. The results of this survey will be presented in the following section. After that, we will return to our theoretical arguments for main elements of a MSS to detect changes in trends that influence the attractiveness of a company's present and future offerings.

## **5. A study on market surveillance in the Danish food industry**

### **Aim, design and execution of the study**

Given the paucity of information available about companies' actual market surveillance activities in general and Danish food companies in particular, it was evident that an exploratory, qualitative study would be more appropriate. The aim of the present study was therefore not to obtain quantitative estimates of the use or non-use of certain market surveillance activities. Rather, the aim was to obtain an understanding of how decision-makers in Danish food companies think about such activities, which information they presently have, how it was collected, etc. The study therefore was of a phenomenological nature. In addition, the intention was to obtain an understanding of decision-makers' reactions to possible MSS concepts in the food industry.

In personal interviews, it is possible to discuss hypothetical subjects with the respondents, eg particulars of a possible future market surveillance system, without losing touch with reality. Furthermore, this interview form allows the respondents to consider aspects they had not thought of themselves, as well as to elaborate on ideas and thoughts along the way. In

accordance with the aims stated above, the study was therefore carried out by open interviews based on a general interview guideline. The number of interviews was not fixed in advance, but the intention was to stop soliciting additional interviews when it seemed that no new viewpoints were appearing.

14 food companies were initially contacted, chosen at random from Kompass Danmark, with the provision that they had to fulfil the following criteria:

- only companies manufacturing products aimed at end users
- only exporting companies
- some variation in type of product manufactured
- some variation in size as measured by number of employees

The first two conditions reflect the target group for our intended work on market surveillance systems. The last two reflect an attempt to include different kinds of companies with regard to size and products.

Nine interviews were carried out. All respondents were involved in the company's export business. All interviews were taped. After the nine interviews, it was decided that the additional information provided by further interviews would be limited.

Prior to the interview, the respondents received a written note on the concept of market surveillance systems as well as an outline to guide the interview. This was done to establish a joint understanding of the concepts *market surveillance* and *market surveillance systems* before the interview.

Some items of information sought for were:

*Status:*

- what kind of market surveillance is carried out at the moment
- what kind of data are collected
- how are the data collected
- how are the data processed

*Wants:*

- future surveillance as regards what, how, why, and which
- the level of information
- the frequency of data collection
- the presentation of the information
- priorities with regard to elements of a MSS: general market characteristics, competitor characteristics, customer characteristics

## Results

Below is an account of the information and attitudes revealed during the interviews grouped according to the areas of interest mentioned above. The attitudes described should be taken as an indication of the attitude of the majority of the companies in which interviews were carried out. One company, however, differed from the following description in most areas.

### *Status: Current market surveillance*

Market surveillance systems are only used to a very limited extent. Collection of information is usually a by-product of other activities, not an objective in itself. Only rarely are resources specifically allocated to the collection of information. This is a calculated policy in most companies: It is considered doubtful whether the means spent on information collection will pay off.

The type of market surveillance undertaken can best be described by the methods used for collecting data on the major elements of market surveillance: general market characteristics, competitor characteristics, and customer characteristics.

For collecting information on *general market characteristics* on export markets, various low-cost sources are used. Embassies, market officers, the library of the Foreign Ministry and, in several cases, graduate students working on their thesis are used. Furthermore, statistics and other publicly available material like journals may be used. The information from these sources is not usually collected systematically and companies do not usually systematically organise it. In most cases, knowledge about an export market is linked to an individual, which in one interview was explained by the fact that

“market surveillance will always be linked to an individual ... although there are some reports, it is still the person who has been there and has seen it all who holds the most important knowledge.”

The knowledge collected when a new market is entered, and the knowledge subsequently accumulated, is also very often linked to an individual - to the individual responsible for the export market in question. The fact that this knowledge is not usually systematically recorded indicates that publicly accessible market knowledge - market knowledge available to all employees in a company - is mostly sparse.

Information on *competitor characteristics* is collected continuously to keep abreast of events and to give the company some idea of its closest competitors. This knowledge is not usually systematized either, as expressed by the following quote:

“That is just something everybody knows”.

Attitudes with regard to what is possible in competitor surveillance vary from one company to the next, but the most common attitude is that there is a limit to how much information can be

obtained about the competition's tactical and strategic activities. Some companies find that they know only little about their competitors; but on the other hand they do not find it possible to obtain much more knowledge. Others believe that they know quite a bit and would still like to know more. The knowledge that exists on competitors is largely on the operational level: knowledge about products, qualities, and prices.

Information collection takes place at fairs, by buying competing products on export markets, and by reading trade journals. Furthermore, sales statistics and import/export statistics are used to get an overview of market shares etc. Moreover, companies may receive information from their salespeople, even though this source of information was considered questionable in several cases, not because of poor cooperation, but because both sides give low priority to information collection and/or because the collection is unsystematic with a consequent danger of losing important information.

With respect to information about *customer characteristics*, we can distinguish between information on immediate customers, ie, *distributors*, and information about *end users*.

Regarding characteristics of *distributors*, the general picture is that surveillance takes place only to a very limited extent. An analysis of the distribution system on an export market may have been undertaken at the time when the company established itself on the market, but the information is usually not up-dated. At the same time, the distribution link is generally considered to be the most important contact to the market, much more important than contacts with end users, as will be shown later, and it may therefore seem strange that little is done when it comes to continuity and classification of information on distributors. The general impression is that information is collected for launching purposes, and after having established cooperation with one or more links in the distribution chain, the search for alternatives on the market ceases. On the other hand, great importance is tied to the establishment of good working relationships, which may convey market information and perhaps support product development. Several respondents expressed high expectations with regard to cooperation with distributors, but had difficulties in explaining in detail what they expected. Consequently, often there is no systematic screening and no knowledge of alternatives.

“We demand a lot of the distributor, but the requirements are somewhat floating”

Distributors are often used as sources of information in other areas, eg, general market knowledge, competitor information, ideas for product development or information about the end user. Formalisation and frequency of this information collection differ a lot. In some companies reports are written after each meeting with a distributor, the results are discussed in relation to goals and strategies, and checklists are used for the information to be collected or observed. In other companies, it is left to the individual to record what takes place during a meeting and how the results are communicated afterwards.

The information collected about distributors, just as about competitors, are of a very operational nature, ie, turnover, assortments, profits etc. Most companies reflect on future

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cooperation with distributors, especially with respect to product development, but it is difficult to assess how much weight these considerations are given in information collection and in subsequent planning.

Most companies are aware of the possibilities generated by better knowledge about present and alternative distributors, and are willing to put more resources into making information collection in this area more systematic.

Surveillance of *end users* only takes place to a very limited extent. The following quotes describe very well the attitude towards end users and to spending resources on collecting information about them.

“The important thing for us to know is what he (the distributor) knows about the end user, ie, what the end user will or will not buy.”

“... but the end user is not our customer, by and large the end user can think of the product what he likes, but if the wholesaler catches the idea of the product or the concept shown to him, then he will take it in, that’s the way it works.”

“Our customer is the distributor rather than the end user.”

Surveillance of the end user is haphazard, ie, the information available is acquired accidentally, not actively. Several companies believe that their export market distributor provides the necessary information with respect to product development, and that consequently it is unnecessary for the company itself to know anything about the end user. Only in special cases, eg, when testing a new product, will some companies make consumer surveys or undertake other systematic collection of relevant information about the foreign consumer.

Some companies buy reports on consumer trends from various opinion research institutes or trade organisations. This is done on an ad hoc basis, not as part of a regular market surveillance procedure.

We can conclude that market surveillance systems appear not to be used in the companies we approached. The market surveillance activities carried out can be classified as *informal market surveillance*. It is subject to the limitations of accidental/everyday observation. It resides - to a large degree - in individual employees. The knowledge generated is more at the tactical than at the strategic level, and it will not easily allow the determination of trends.

*Wants: Demands with respect to possible market surveillance systems*

All respondents said that the two key elements in a market surveillance *system*, continuity and systematic information collection, were desirable. Furthermore, it was generally acknowledged that the information already accumulated in the company was an important resource and that a higher degree of formalization in both collection and recording could strengthen the

company's competitive ability without leading to unbearable costs. Some expressed doubts that a more systematic collection and recording of information could affect sales in the short run, but agreed that it could be useful as an instrument for future planning and as a source of information to the company as a whole.

All respondents were asked to rank-order the major elements of market surveillance - general market characteristics, competitor characteristics, and customer characteristics, split up into distributor and end user characteristics. The ranking should express the perceived importance of the elements in a possible MSS.

It is the predominant opinion that distributor and competitor characteristics are the most important parameters for the future sale of the company, and consequently that information about them will be of greatest importance. A major reason for the importance attached to distributors is the centralisation which has occurred in the retailing sector. It is also believed that increased knowledge about competitors and distributors seems to be realistic in the short run.

Knowledge about general market characteristics is also regarded as interesting information for planning purposes, although this type of information is viewed as less operational than information on distributors and competitors.

End user characteristics have the lowest priority, because the companies do not believe that they have many chances in obtaining such knowledge, and because they in principle deal with the distributors, not with end users. Many companies said that the consumers have no say in the matter, they merely have a choice of what is on the shelves:

“The chains in XX are strong, they control consumer wishes.”

On the other hand, it is believed that changes in consumer trends may affect sales in the long run, but this factor is viewed as less firm and concrete than when a company is cut out of a distributor's assortment.

Within these four areas, all respondents had suggestions for information which is not available today in the companies, but which could be helpful for their export planning.

The most important *general market characteristic* desired is an overall picture of the channel structure on the various markets. This is regarded as being both of immediate operational use, and a help in planning future exports.

In addition, specific information on *distributor characteristics* was demanded. This included information on assortment, segments, location served, turnover etc. Some said that they would like information on how the individual distributor could be of help in product development and in supplying information on end users or competitors.

Wishes and demands regarding knowledge about *competitor characteristics* are geared towards extending the scope of competitors monitored today. Direct competitors are in focus the base, and preferred a subscription system where information is supplied on a diskette.

## Implications

It is important to keep in mind the limitations of this small study. It is not based on a representative sample, and its aim is exclusively exploratory. But it gives an impression of both current market surveillance activities and reactions to the possible use of a MSS.

With regard to the latter, the results show a positive, but diffuse attitude. Whereas nobody denies the potential usefulness of more systematic and more continuous data collection, both the design of such a system and its potential usefulness seem hard to imagine. This goes especially for information on long-term trends and their potential use in designing business strategy, since many of the information needs voiced were clearly at the operational level.

Therefore we propose the following procedure. Based on the theoretical reasoning presented in the first section of this paper, we will in the following present an outline of major elements of a MSS. We will present a framework which ties these elements together, and make some suggestions for what to measure and how to collect data. The framework can be regarded as a programme for research in developing instruments to be used in MSS.

## 6. Elements of a market surveillance system

We have argued that market surveillance is concerned with two types of information:

- determinants of customer value perception
- determinants of costs

Furthermore we have argued that such information can be related to three units of analysis:

- competitor characteristics
- customer characteristics
- general market characteristics

Finally, we have mentioned that customers should be divided into immediate customers - distributors - and end users. We therefore aim at *four elements of a market surveillance system*:

- an end user module
- a distributor module
- a competitor module
- a market attractiveness module

If, for the moment, we disregard the market attractiveness module, then all modules are concerned with characteristics of economic actors. These actors are organizations - retail organizations, manufacturers, private households. We are interested in their characteristics to the extent that they have an impact on customer value perception and costs.

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We would like to argue that all these organizations can be described by three groups of characteristics (figure 2; for related views see Arndt, 1983; Skytte, 1993):

- *The cognitive structures of the individuals in the organization.* In the most general sense, this refers to how individuals perceive their environment and link it to their personal values. These links will motivate their behaviour within the organization.
- *Intra-organizational decision processes.* Since individuals, at least in many cases, do not act in isolation, but as members of an organization (company, household), their possible diverging views and intentions, as motivated by their cognitive structures, must be mediated by some organizational decision processes.
- *Organizational resources.* Finally, the actions actually taken by an organization will be constrained and affected by the organization's resources.

We can now elaborate these three categories for the three groups of actors. This is summarized in table 1.

#### *End users*

End users, ie, consumers, are organized in households. The way they perceive value in products is determined by their perception of these products, and to which extent they believe these products are useful to them in attaining life values which are important to them. Product perceptions and their links to life values are also called consumers' product-related cognitive structures.

The most well-known model of consumers' cognitive structure is the *means-end model*, which analyses cognitive structures in terms of chains *product attributes - consequences of product use - values* (Gutman, 1982; Olson, 1989; Peter & Olson, 1993). According to this view, the value which consumers see in food products would be determined by the consequences they expect from consuming these products, and the impact these consequences have for the attainment of life values. An example would be the chain *sugar-free - less calories - stay slim - be more beautiful - be accepted by others*, leading this particular consumer to see value in a sugar-free product. We would like to argue, however, that, in the case of food products, two more types of links are relevant for value perception: how people shop, and how they prepare the food. An example for this would be the chain *buy meat at butcher - get more tender meat - can be grilled - will have less fat - less calories - stay slim - be more beautiful - be accepted by others*. Finally, the way food products will be linked to ways of shopping and preparing, and to consequences and finally values, will depend on the usage situation intended, eg, festive meals or everyday meals.

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Figure 2. Groups of characteristics of market actors

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We therefore argue that there are five types of cognitive categories which make up the part of consumers' cognitive structure relevant for value perception of food products: *product attributes*, *consequences of product use*, *shopping scripts*, *meal preparation scripts*, and *usage situations*. Together they determine how consumers mentally link food products to life values.

The general characteristics of how consumers mentally make these links using these five categories we call *food-related life style*. It can be measured by a battery of Likert-type survey items. Details on this have been reported elsewhere (Grunert, Brunsø & Bisp, 1993). Food-related life style can be a useful instrument in market surveillance for food companies.

Consumers' cognitive structures are individual constructs. When consumers live in households with more than one person, their individual perceptions will not necessarily turn into buying behaviour directly. They may be mediated by an intra-organizational decision process, family decision-making, the outcome of which can be regarded as the household's, as opposed to the individual's, value perception in food products.

The outcome of family decision-making will depend on the extent of congruence of family members' cognitive structures, family members' relative influence, and the way possible conflicts are resolved (Böcker & Thomas, 1983; Davis & Rigaux, 1974; Jensen, 1990). The question of relative influence can be related to whether family members assume different roles in the decision-making process, eg, initiator, information seeker, decider.

To a large extent food products are purchased as a matter of routine, and extended family decision-processes are therefore unlikely. However, the question to which extent the decisions

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are husband or wife-dominated, and to which extent they are made jointly, as well as the impact of children on the shopping process, both by direct influence in the shop and by parents' anticipation of the child's preferences, is of interest in order to appreciate whose value perceptions will dominate the family's value perception. Such questions have been addressed in a number of studies on family decision-making (Childers & Rao, 1992; Foxman, Tansuhaj & Ekström, 1989; Jensen, 1988; O'Connor et al., 1985; Ward & Wackman, 1971; Wilkes, 1975). Building on this work, and extending the *food-related life style instrument*, it would be relatively easy to also measure *family food decision-making style* as part of market surveillance.

Households' purchase of food items is constrained by the households' resources. Household income is an economic constraint. Household spare time is a constraint which may have considerable impact on shopping behaviour. To which extent the household is equipped with household appliances, like microwave ovens, deep freezers, and blenders, has an impact on the type of products and preparations feasible (Bonke, 1992).

To some extent, household resources will be mirrored in the household members' cognitive structures. If the household has no microwave oven, this form of preparation will not appear in the cognitive structure. Types of products and/or behaviours which are unaffordable in terms of time or money will be less prominent in the cognitive structure. However, measures of household resources can be collected separately, and are to a large extent available from official statistics, which makes these data a comparatively effortless complement to a market surveillance system.

### *Distributors*

We are interested in the determinants of distributors' value perception. Distributors are mainly retail organizations.

Decision-makers in retail organizations, just as household family members, will perceive value in a food product to the extent that they believe that this product will help them in attaining their values or goals. These goals may be both organizational and personal. They may differ according to the position of the decision-maker in the organization. They will also depend on the organization's business mission (Stevenson, 1976).

Retail decision-makers' cognitive structure can, for the present purposes, thus be defined as the system of the cognitions which link the attributes of a potential supplier and its products to the decision-makers' goals. We would like to argue that four types of cognitive categories are relevant in this context: *saleability judgements*, *congruence with retail positioning*, *congruence with value chain positioning*, and *areas of supplier-retailer cooperation*. These four types of cognitive categories are interlinked and can be conceived as a network.

Saleability judgments are the retail decision-maker's expectations of the extent to which a product will be saleable, given the products attributes on the one side and his/her knowledge

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about end users on the other side. Retail decision-makers usually have a number of dimensions on which they judge a product in order to determine its saleability, and information on product attributes will be used to infer them (cf. Ettenson & Wagner, 1986).

Even if a product is estimated saleable, it may not be in congruence with the perceived positioning of the retail organization and may hence be perceived as not helpful in attaining organizational and/or personal goals. Congruence with retail positioning may therefore be a second determinant of value perception in retail decision-makers' cognitive structure (cf. Sheth, 1981), and will also be inferred on the basis of perceived product and producer attributes.

Retail positioning refers to positioning in terms of end user criteria. A retail organization can also be characterized according to which value-adding functions it performs in the vertical system of value chains (Porter, 1985). The offerings by a supplier may be in more or less congruence with this positioning in the overall value chain, and this as well can be expected to influence retail decision-makers' value perception.

Finally, supplier-retailer relationships can be characterized by various degrees of vertical cooperation (Skytte, 1990). Retail decision-makers know which degrees and types of cooperation further their personal and organizational goals, and will use supplier attributes to infer whether a supplier conforms to these expectations.

The set of these four elements of retail decision-maker's cognitive structure we may call *retail supplier evaluation style*. It may be measured by a questionnaire device. However, no adequate instrument has been developed yet.

Individual retail decision-makers' cognitive structures are mediated by organizational decision processes, before they become behaviourally relevant for suppliers. While retail decision-making is an under-researched area (Sheth, 1981), theories on industrial buying behaviour may be applied here (eg, Calder, 1977; Choffray & Lilien, 1978; Kirsch & Kutschker, 1982; Moriarty, 1983; Sheth, 1973; Vyas & Woodside, 1984; Webster, 1984; Wind & Thomas, 1980). They point at two basic sets of questions. The first is: Who are the decision-makers, ie, whose cognitive structures will be most influential in the final decisions? In a retail context, a major aspect of this question is the degree of centralization of decision-making. Decisions about listing and purchasing may be made centrally by the chain headquarters, or they may be, at least partially, delegated to regional offices or even individual shop managers. The second set of questions refers to how decisions are made when more than one person is involved in the process, and when these persons' criteria and/or conclusions differ. Various models of group decision-making have been proposed (eg, Choffray & Lilien, 1978).

Information on individual cognitive structures and on organizational decision-making can again be supplemented by information on organizational resources. Again, resources will be at least partly mirrored in cognitive structures, but may be of interest in their own right, and may be obtainable from established data sources (eg, Nielsen data). Examples of relevant resource information would be overall sales, profit measures, number of outlets, market share in the product group in question, average size and sales volume of outlets.

### *Competitors*

We are interested in the determinants of competitors' level of costs, and in the determinants of the level and type of value which competitors can create in their products, because these will have an impact on the attractiveness of our own products, and they will allow inferences about how fast the attractiveness of present products may disappear over time due to competitor imitation.

The competitor characteristics which determine competitor costs and value creation are the competitors' skills and resources, according to the model discussed earlier. To narrow down the set of characteristics, we can concentrate on the skills and resources which can be regarded as key success factors on the respective market.

Key success factors may be defined as the skills and resources in which a business can invest, which, on the market the business is operating, explain a major part of the observable differences in perceived value and/or relative costs (Grunert & Ellegaard, 1993). Key success factors are mandated by market characteristics, and may hence differ across markets, but are assumed to be at least moderately stable over time.

The key success factors on a market may be determined by a statistical analysis relating companies' scores on various skills and resources to their relative cost level and to a measure of perceived value of their products. Those skills and resources explaining most of the variance in the two dependent variables are the key success factors. The companies' scores on these factors will give information on these companies' abilities to create high value at low cost. Since they are the objective constraints within which the companies can create value and incur costs, we may refer to them as the resource part of competitor characteristics.

In a dynamic context, we are also interested in how competitor scores on key success factors will change in future, since this will affect the attractiveness of our own offerings. Such changes will depend on which skills and resources the decision-makers in the respective company will perceive as key success factors - which may not coincide with the objective key success factors in the market (Grunert & Ellegaard, 1993). The part of competitor decision-makers' cognitive structure, we are interested in, is hence their perception of the key success factors on the market(s) they are operating on. Managerial decision-making will then turn these perceptions into decisions to invest in skills and resources.

Perceived key success factors can be measured by qualitative interview techniques analogous to the laddering method. Measuring companies' objective scores on key success factors is more intricate. We may distinguish three levels of "objectivity": a) data derived from company and competitor documents. This will have a high degree of objectivity in the sense that the result will only to a small degree depend on how the variable in question is perceived by an observer. However, such data is usually very difficult, if not impossible, to get. b) "Self-reported objective measures" (Dess & Robinson, 1984) imply that one relies on a business executive to give estimates. This has a lower degree of objectivity, in that the original data is not inspected by the researcher, who trusts the validity of the figures given by the executive

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(who may have estimated the figure without a data base). c) Subjective ratings of the variables in question by a business executive, eg on a five-point rating scale. This kind of measurement has the lowest degree of objectivity. The second and third possibilities are widely used, eg, in the PIMS data base.

Table 1 summarizes the possible elements of a MSS for end users, distributors, and competitors.

*Table 1. Elements of a MSS for end users, distributors, and competitors*

	<b>End users</b>	<b>Distributors</b>	<b>Competitors</b>
<b>Decision-makers' cognitive structure</b>	Food-related life style	Retail supplier evaluation style	Perceived key success factors
<b>Intra-organizational decision processes</b>	Family decision-making	Retailer decision-making	Managerial decision-making
<b>Organizational resources</b>	Family income, time budget, equipment with appliances	Retailer sales, profit, market share, # of outlets	Competitor scores on key success factors

*General market characteristics*

Market surveillance with regard to general market characteristics should cover those characteristics which have a general impact on the attractiveness of a certain type of product on that market. We are especially interested in the change of the attractiveness over time, as it can be described by the product life cycle. In which stage of the life cycle a product can be placed on a market is usually associated with different strategic moves (Day, 1986), and, when several markets are analysed in parallel, the way life cycles on these various markets are lagged to each other (Baadsgaard et al., 1992; Hirsch, 1976; Vernon, 1966; Wells, 1969) gives important information on when to invest in or draw out of certain markets, and in which sequence to place products on markets and to transfer marketing technology from one market to another.

As has been argued many times, the product life cycle is only a summation of a host of factors determining sales of a product and their changes over time (Lambkin & Day, 1989). The major general market characteristics which will have an impact on the overall sales of a type of food product are (Baadsgaard et al., 1992):

*Economic and socio-demographic factors.* This includes per capita income, income distribution, women in the workforce, literacy, family size, urbanization, and age distribution.

*Cultural factors.* This includes religion, general attitudes towards certain types of food products, meal preparation standards.

*Distributional factors.* This includes the number of retail outlets and their distribution, their equipment with cooling and storing facilities, infrastructure characteristics.

*Competitive factors.* Direct and indirect substitutes; their prices and market shares.

Some of this information is available from secondary sources like official statistics, but most of the information must usually be dug up on the spot. Details of developing a market surveillance and screening system focusing on general market characteristics have been reported elsewhere (Baadsgaard et al., 1992; Jensen et al., 1993).

## **7. Conclusions**

We have tried to provide a framework for the development of market surveillance systems for the food industry. We started by defining market surveillance as collecting information about variables which will allow inferences about the attractiveness of a company's present and future offerings. We have further argued that the most important of these variables are the determinants of the value customers will perceive in the product, and the determinants of the relative cost in producing this value.

Value perception and relative costs will be determined by characteristics of end users, distributors, and competitors. In addition, they are determined by a number of general market characteristics.

Most companies collect information on such characteristics in an informal way. We have argued that a market surveillance *system* means collecting such information regularly and by using instruments developed for that purpose. By having such a systematic approach to market surveillance, it will be possible to detect long-term market trends affecting the attractiveness of present and future products.

We have presented a framework specifying end user, distributor, and competitor characteristics that will be useful to collect information about for market surveillance purposes. For each of these groups of actors, we have identified aspects of decision-makers' cognitive structures, of organizational decision-making, and of organizational resources, which are assumed to have an impact on value perception and/or relative costs of a product or offering. In addition, we have identified relevant groups of general market characteristics. For some of these groups of variables measurement methods are already available; for others, they still have to be developed.

A market surveillance system does not have to cover all the elements identified here. For any particular company, some elements may be more important than others. The framework presented here gives a conceptual basis for building market surveillance systems, and it provides a programme of research for developing instruments useful for collecting data for market surveillance.

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