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The Worldwide Flavor and Fragrance Industry, 1985-1990

Basic Industry Trends in an Unstable Monetary and Highly Competitive Environment

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Worldwide Merchant Sales of Flavors and Fragrances, 1985-1990

Under the term 'flavors and fragrances,' the industry generally recognizes the following broad product categories (for details, see Table I):

Flavor and Fragrance Ingredients/Substances
Essential oils and other natural products, (absolutes, aqueous distillates/solutions, concretes, concentrates and terpenic by-products of essential oils; expressions, extracts, oleoresins, etc. of fruits, herbs, meat, roots, spices, etc.; animal and vegetable resinoids.)
Aroma chemicals (natural; nature-identical; artificial)
Flavor and Fragrance Finished Products
Flavor Compounds/Blends (natural; nature-identical; artificial)
Fragrance Compounds/Blends

This industry definition consequently *excludes* such products as flavor enhancers (e.g., monosodium glutamate); synthetic sweeteners (aspartame, saccharin); spices; food additives, such as acidulants, colorants, emulsifiers, preservatives, surfactants or thickeners; cosmetic chemicals, such as fatty chemicals, preservatives, surfactants or UV-absorbers; soap and detergent chemicals, such as colorants, preservatives, surfactants, or any other fine or specialty chemicals.

Worldwide merchant sales of flavors and fragrances amounted to an estimated $4,900 million in 1985 against $4,650 million in 1984, that is, an increase of 5.4% in current dollar terms. This compares, always in current dollar terms, to an increase of only 3.3% between 1983 and 1984, and 2.3% between 1982 and 1983.

Since 1980, the flavor and fragrance industry has been experiencing a period of relatively low average annual growth rates in its nominal worldwide merchant sales (excluding captive production and consumption by customers) calculated in current U.S. dollars: about 2.5% between 1980 and 1985 ($4,300 million in 1980 against $4,900 million in 1985). However, it is important to keep in mind that, due to the present

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Table I. Definitions of Flavors and Fragrances

A. Flavors

1. Flavor Ingredients/Substances

Essential oils and their absolutes, aqueous distillates/solutions, concretes, concentrates and terpenic by-products

Expressions, extracts, oleoresins of fruits, herbs, meat, roots, spices

Flavor aroma chemicals (natural; nature-identical, artificial

2. Flavor Compounds/Blends (natural; nature-identical; artificial

B. Fragrances

1. Fragrance Ingredients/Substances

Essential oils and their absolutes, aqueous distillates/solutions, concretes, concentrates *and terpenic by-products*

Animal and vegetable resinoids (castoreum, civet or musk; gums, gum-resins; oleogum-resins)

Fragrance aroma chemicals (natural; nature-*identical; artificial*)

2. Fragrance Compounds/Blends

C. Others (Non-Flavors & Fragrances):

1. Flavor enhancers (monosodium glutamate, etc.)

2. Synthetic sweeteners (aspartame; saccharin, etc.)

3. Spices

4. Food additives such as acidulants, colorants, emulsifiers, preservatives, surfactants, thickeners, etc.

5. Cosmetic chemicals such as colorants, fatty chemicals, preservatives, surfactants, UV-*absorbers, etc.*

6. Soap and detergent chemicals such as colorants, preservatives, surfactants, etc.

world monetary system of flexible/fluctuating foreign exchange rates (changing periods of dollar depreciation versus dollar appreciation), all

Table II. Estimated Worldwide Merchant Sales, 1985

	Millions of Dollars
1. International Flavors & Frag.	501
2. Givaudan	303
3. Firmenich (ending June)	226 (1985-1986)
4. PPF International/Norda	200
5. Takasago (ending March)	193 (1985-1986)
6. Naarden	175
7. Haarmann & Reimer	173
8. Bush Boake & Allen/Union Camp	126
9. Florasynth/Lautier	105
10. Dragoco	98

Note: The four basic product categories of the flavor and fragrance industry are essential oils and other natural ingredients/ substances; aroma chemicals (natural, nature-identical, artificial); flavor compounds/blends; and fragrance compounds/blends.

calculations/consolidations in current U.S. dollars (or in any other currency) are tainted with *considerable foreign exchange rate distortions,* and that they do not reflect exactly the real market situation. Indeed, calculated in current local currencies, the average annual growth rate of the flavor and fragrance industry was certainly much higher than 2.5% between 1980 and 1985, probably around 9-11% (including quantity growth and price inflation), and probably around 4-5% when calculated only in quantity (tonnage) terms.

With a complete change in the international monetary landscape during the years 1985/1986,

Table III. Worldwide Merchant Sales of the Largest International Flavor and Fragrance Companies in 1984 and 1985

Companies		1984	1985	Change (%)
1. International Flavors & Fragrances	$	477	501	+ 5.1
2. Givaudan	$	316	325	+ 2.8
	SF	741	798	+ 7.7
3. PPF International/Norda	$	215	235	+ 9.3
	£	161	184	+ 14.3
4. Firmenich (ending June)	$	175	226	+ 29.1
	SF	450 (1984/1985)	470 (1985/1986)	+ 4.4
5. Takasago (ending March)	$	207	222	+ 7.2
	Yen billions	50.6 (1984/1985)	53.1 (1985/1986)	+ 4.9
6. Haarmann & Reimer	$	197	203	+ 3.0
	DM	558	600	+ 7.5
7. Naarden	$	196	199	+ 1.5
	HFL	627	663	+ 5.8
8. Bush Boake Allen/Union Camp	$	137	140	+ 2.2
9. T. Hasegawa (ending September)	$	92	132	+ 43.5
	Yen billons	19.9	20.2	+ 1.5
10. Hercules/PFW	$	120	130	+ 8.3
11. Dragoco	$	109	115	+ 5.5
	DM	310	339	+ 9.4
12. Florasynth/Lautier	$	96	105	+ 9.4
13. Creations Aromatiques/Fries & Fries	$	85	90	+ 5.9
14. Roure Bertrand Dupont	$	76	85	+ 11.8
	SF	177	208	+ 17.5
15. Fritzsche Dodge & Olcott	$	78	83	+ 6.4
16. Felton Worldwide (ending September)	$	71 (1984/1985)	75 (1985/1986)	+ 5.6
17. Flavor and fragrance industry in Grasse, France (15 companies)	$	217	234	+ 7.8
	FF	1892	2105	+ 11.3
Sub-Total	$	2,772	2,968	+ 7.1
18. Others (several hundreds of small- and middle-sized national and international companies	$	1,878	1,932	+ 2.9
World Total	£	4,650	4,900	+ 5.4

All product categories: Fragrance compounds, flavor compounds, aroma chemicals, essential oils, other specialty chemicals

In millions of current U.S. dollars and local currencies. Data for IFF, Givaudan, Takasago, Naarden and Roure Bertrand are published figures. All the others are estimates.

that is, a very substantial depreciation of the U.S. dollar against most other important currencies, a *turning point (trend change)* has taken place in the calculation/consolidation procedure in current U.S. dollar terms with regard to future average annual growth rates. Flavors and fragrances are forecast to grow at an average annual rate of around 10.5% during the period 1985-1990, from about $4,900 million in 1985 to about $8,100 million in 1990 (as measured in current U.S. dollars including quantity growth, price inflation and foreign exchange rate effects/distortions).

This forecast of future growth rate, of course, assumes completely different average yearly exchange rate forecasts (arithmetic average of 12 months) for the period 1985-1990 as compared to the real exchange rates of the period 1980-1985, that is, a generalized and very substantial depreciation of the U.S. dollar against most other important currencies. Needless to say, that forecast average annual growth rate of about 10.5% for the period 1985-1990 again is heavily tainted with considerable foreign exchange rate distortions, but this time, in the other direction.

Table IV. Worldwide Merchant Sales of Flavors and Fragrances by the Largest International Companies in 1985

Companies	Sales of Flavors and Fragrances (Estimates)	Sales of Other Products (Estimates)	Total Sales (Estimates)
1. International Flavors & Fragrances	501 (100%)	-	501 (100%)
2. Givaudan	303 (93%)	22 (7%)	325 (100%)
3. Firmenich (ending June)	226 (100%)	-	226 (100%) 1985/1986)
4. PPF International/Norda	200 (85%)	35 (15%)	235 (100%)
5. Takasago (ending March)	193 (87%)	29 (13%)	222 (100%) (1985/1986)
6. Naarden	175 (88%)	24 (12%)	199 (100%)
7. Haarmann & Reimer	173 (85%)	30 (15%)	203 (100%)
8. Bush Boake Allen/Union Camp	126 (90%)	14 (10%)	140 (100%)
9. T. Hasegawa	120 (91%)	12 (9%)	132 (100%)
10. Florasynth/Lautier	105 (100%)	-	105 (100%)
11. Dragoco	98 (85%)	17 (15%)	115 (100%)
12. Creations Aromatiques/Fries & Fries	90 (100%)	-	90 (100%)
13. Hercules/PFW	85 (65%)	45 (35%)	130 (100%)
14. Roure Bertrand Dupont	85 (100%)	-	85 (100%)
15. Fritzsche Dodge & Olcott	83 (100%)	-	85 (100%)
16. Felton Worldwide (ending September)	70 (93%)	5 (7%)	75 (100%)
17. Flavor and fragrance industry in Grasse, France (15 companies)	234 (100%)	-	234 (100%)
World Total	2,747 (93%)	221 (7%)	2,968 (100%)

Flavors and fragrances: Fragrance compounds, flavor compounds, aroma chemicals, essential oils and other natural products. Other products: Cosmetic chemicals, food additives, industrial chemicals, other specialty chemicals.

In millions of current U.S. dollars, total sales data for IFF, Givaudan, Takasago, Naarden and Roure Bertrand Dupont are published figures. All the others are estimates.

Calculated in quantity (tonnage) terms, worldwide merchant sales of flavors and fragrances will probably grow at an average annual rate of about 3-4%. By taking *stable* foreign exchange rates into our calculations, the average annual growth rate of the industry will probably be around 5-6% (in current U.S. dollar terms) which includes about 2-3% for inflationary effects.

In 1985, estimated worldwide merchant sales of flavors and fragrances (including the four classic flavor and fragrance product categories, but excluding all others) of the ten largest international/multinational companies are presented on Table II.

The combined worldwide market share of the top five international/multinational companies accounted in 1985 for only about 30.4% of worldwide merchant sales of flavors and fragrances; that of the top ten for only about 44.8%; and that of the top fifteen for only about 53.6%. When, in addition, we include the fifteen companies from the Grasse area in France, the combined worldwide market share of the top thirty international/multinational companies accounted in 1985 for only about 58.6% of the worldwide merchant sales of flavors and fragrances, the remaining 41.4% being dispersed among several hundred small- and middle-sized national and international/multinational companies (manufacturers, agents and brokers). For details, see Tables III, IV and V. The above percentage figures clearly demonstrate the highly fragmented nature of the flavor and fragrance industry with all the negative features and consequences attached to such an underlying industry structure.

Basic Characteristics of Flavor and Fragrance Demand

Flavors and fragrances in the four classic product categories are industrial chemicals, that is, intermediate goods/raw materials (and not final

Table V. Worldwide Market Shares of the Largest International Flavor and Fragrance Companies in 1985

(Estimates based on companies' total sales of flavors and fragrances excluding other products.)

Companies	Value Market Share in 1985		
1. International Flavors & Fragrances	10.7%	30.4%	
2. Givaudan	6.5%		
3. Firmenich	4.8%		
4. PPF International/Norda	4.3%		
5. Takasago	4.1%		
6. Naarden	3.7%	44.8%	
7. Haarmann & Reimer	3.7%		
8. Bush Boake Allen/Union Camp	2.7%		
9. Florasynth/Lautier	2.2%		53.6%
10. Dragoco	2.1%		
11. Creations Aromatiques/Fries & Fries	1.9%		
12. Hercules/PFW	1.8%		
13. Roure Bertrand Dupont	1.8%		
14. Fritzsche Dodge & Olcott	1.8%		
15. Felton Worldwide	1.5%		
16. Flavor and fragrance industry in Grasse, France (15 companies)	5.0%		
Sub-Total (30 companies)	58.6%		
17. Others (several hundred small- and middle-sized national and international companies)	41.4%		
World Total	100.0%		

consumer goods) sold for industrial use. More specifically, flavor and fragrance compounds/blends are specialty chemicals, that is, differentiated or performance products offered for what they do in the end-products. Aroma chemicals, however, are fine chemicals, that is, mostly undifferentiated (with some exceptions) or composition chemicals (with a defined chemical structure) sold for what they contain (see Table VI prepared on the basis of Kline's research reports).

The differing classes of industrial chemicals have, of course, their own culture, meaning that different business strategies are required for each of them with regard to general management, R&D, manufacturing, marketing and finance. The basic marketing of flavors and fragrances is, therefore, typically industrial goods marketing—tinged with complementary features of consumer goods marketing (panel tests, etc.)—requiring a very close relationship between suppliers and customer end-users (which are companies and not consumer households). All this is due to a certain number of basic characteristic features of flavor and fragrance demand (or any other industrial goods demand) listed below:

1. Derived demand (industrial chemical demand originating from final flavored and fragranced consumer/industrial/institutional end-products)
2. Relatively price-inelastic demand (in the short-term)
3. Fluctuating (cyclical) demand
4. Artistic and technical product complexity (numerous and varying smell/taste preferences; stability; substantivity; toxicology)
5. Geographical concentration of the World Market (Western Europe + United States + Japan = 72% in 1985)
6. Relatively few but large buyers/customers—High value of purchases (due to buyer/customer concentration in the end-product markets)
7. Professional purchasing (with some exceptions)
8. Rational buying motives and practices (with some exceptions)

Table VI. Chemical Industry Flavors and Fragrances Classes of Industrial Chemicals

Price / Volume	Undifferentiated (Composition)	Differentiated (Performance)
Price Low / Volume High	True Commodities Examples: Fatty chemicals Gum & wood chemicals Industrial gases Inorganics Petrochemicals	Pseudo-Commodities Examples: Carbon black Explosives Fertilizers Fibers (man-made)
Price High / Volume Low	Fine Chemicals Examples: Aroma Chemicals Food chemicals (Standard) Medicinals Nutritional chemicals	Specialty Chemicals Examples: Antioxidants Biocides Cosmetic additives Flavor & Fragrance Compounds Food Additives (specialty)

9. Complexity of the buying process (key/relevant decision-making unit: Group of brand managers, product managers, market managers, laboratory specialists, perfumers, flavorists)
10. High degree of interdependence between sellers and buyers

There is a fundamental lack of understanding, and often misunderstanding, of industrial goods marketing and its objectives. Industrial goods marketing basically involves *planning of marketing strategy and tactics* through in-depth market segmentation. Shaped to the flavor and fragrance business, first of all to compounds/blends, these are, therefore, at least five basic types of *strategic industrial marketing information needs,* as well as *activities/tasks:*

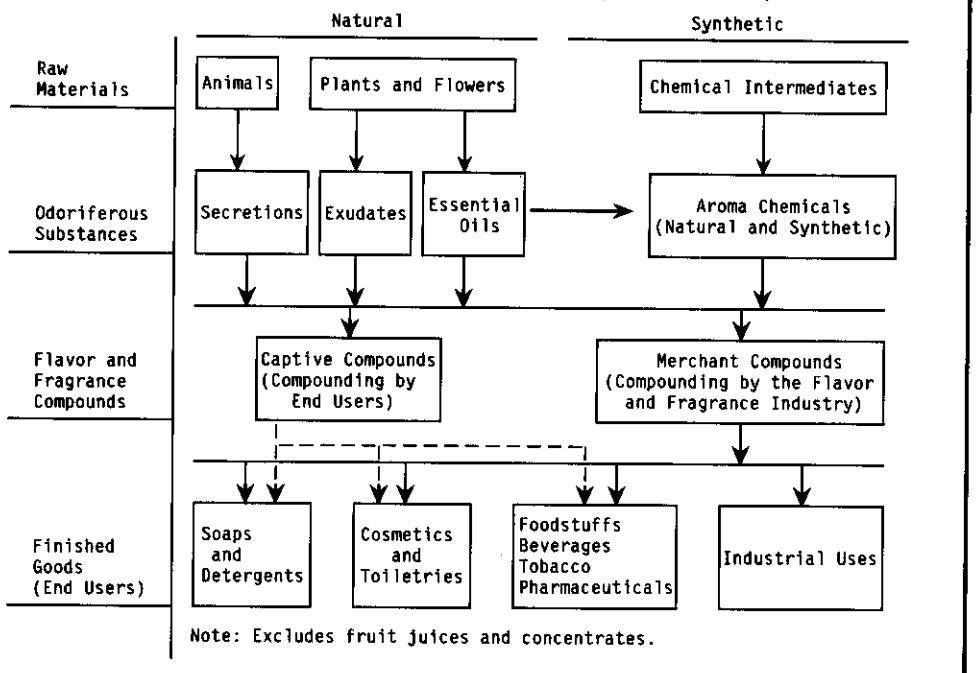
1. Size and growth rate (past, present, future) of market segments according to individual perfumed and flavored end-products (based on production figures)
2. Identification of the best market segments, customer groups and individual customers according to individual perfumed and flavored end-products (target market segments)
3. Learning of customers' basic flavor/fragrance needs and wants according to individual perfumed and flavored end-products
4. Identification of the company's most and least profitable flavors and fragrances according to individual perfumed and flavored end-products
5. Determination of the company's and competitors' marketing strengths and weaknesses according to individual perfumed and flavored end-products.

Putting together all the above information, however, represents a formidable and massive task, as well as more investment into marketing activities. It is also very often a disappointing task due to the lack of meaningful statistical data on the enormous number of individual perfumed and flavored end-products. Nevertheless, armed with such a marketing knowledge, a flavor and fragrance company would be in a better position to achieve and maintain a competitive advantage, as well as to get the "biggest bang for its marketing buck."

Underlying Industry Environment and Structure

A very disturbing and detrimental case for original compounds/blends manufacturers is captive manufacturing of flavor and fragrance compounds/blends by usually large customer end users. This is, of course, a classical case of

Table VII. Structure of the Flavor and Fragrance Industry



backward integration in the vertical structure of an industry (see Table VII).

As to fragrance compounds, many of the very large perfumed end-product manufacturers (such as Procter & Gamble; Colgate-Palmolive; Lever Brothers; Henkel; Camp; Mira Lanza), as well as many important fine/alcoholic fragrance manufacturers (e.g., Paris "couturiers") create and manufacture, partly or totally, their own fragrance compounds, and buy on the free merchant market only aroma chemicals, essential oils and other natural products. They, however, buy more and more sub-compounds, but only occasionally finished compounds.

As to flavor compounds, General Foods is known to create and use some flavor compounds made in-house, but the best known case is Coca-Cola with its famous top secret cola formula.

The captive manufacturing is probably worse in the fragrance compounds field where a very substantial market potential is not available in the form of finished compounds, but only in that of aroma chemicals, essential oils and, eventually, sub-compounds. Needless to say, such a backward integration by customer end users reduces the marketing opportunities for original compounds/blends manufacturers and causes very difficult statistical calculation problems in finding out the available free merchant sales potential.

Basic Competitive Forces in the Flavor and Fragrance Industry

According to Porter,[1] the state of competition in an industry, and it is completely true for the flavor and fragrance industry, depends on five basic competitive forces: among current competitors (underlying industry structure; rivalry among existing firms), by new entrants (barriers to entry), by current customers (bargaining power), by current suppliers (bargaining power), or of substitute products (threat of substitute products).

The collective strength of these five basic competitive forces determines the intensity of industry competition and the ultimate profit potential in an industry. Any definition of an industry is essentially a choice of where to draw the line between these five basic forces of competition. Competition in an industry continually works to drive down the rate of return on invested capital toward the competitive floor rate of return, or the return that would be earned by the economist's "perfectly competitive industry."

For a company, the goal of competitive strategy is, therefore, to find a position in the industry where it can best defend itself against the five basic competitive forces or can influence them in its favor. Once the five basic forces affecting competition in an industry and their underlying causes have been assessed and diagnosed, the

company is in a position to identify its strengths and weaknesses relative to the industry.

To cope with competitive forces or to outperform competitors in an industry, Porter proposes three general competitive strategies. The first is overall cost leadership (economies of scale; cost reductions; cost and overhead control; avoidance of marginal customers through target market selection; cost minimization in all areas). Next comes differentiation of products and services (development of performance products; patents, brand names; trade names; superior marketing). The final strategy is to focus on a particular customer, product or geographic segment (serving very well a particular market segment/target).

These internally consistent strategies can be used singly or in combination. However, they differ in dimensions and risks, and implementing them successfully requires different resources and skills, differing organization arrangements and control procedures.

Fragmentation and Maturity in the Industry

Differing industry environments reflect fundamental differences in industry concentration, state of industry maturity and exposure to international competition. These differing environments are crucial in determining the strategic context in which a company competes, the strategic alternative available and the common strategic errors. According to Porter, the five basic and highly differing industry environments are the fragmented, the mature, the declining, the emerging/new, and the global industries.

To what category does the flavor and fragrance industry belong? Our long-time tracking and analysis of the flavor and fragrance industry indicates that it is not a declining one, neither an emerging/new one, nor a global one, at least not in the sense of Porter's analysis. On the other hand, we can assert that the flavor and fragrance industry is an international/multinational fragmented and maturing (in transition to maturity, but not wholly mature industry).

A fragmented industry is characterized, according to Porter, by a large number of small- and middle-sized competitors and the absence of clear market leaders (generally, the combined market share of the top five competitors should account for at least 50% of the total market). For such a state of affairs, there are, of course, a large number of underlying historical and economic reasons, such as low overall entry barriers; absence of economies of scale; erratic sales fluctuations; high inventory costs; no significant bargaining power in dealing with large customers or suppliers; diseconomies of scale stemming from rapid product, fashion or style changes; diverse market needs due to fragmented customers' various tastes requiring special varieties of a product; high product differentiation; exit barriers; and legal regulations.

For overcoming such a fragmentation, Porter proposes several common and specific strategies, such as creation of economies of scale; standardization of diverse market needs; significant acquisitions; tightly-managed decentralization; specialization by product type/segment or customer type/segment; increased value-added (through specialties instead of commodities); selective horizontal, forward or backward integration. In a fragmented industry, strategic positioning is of particularly crucial significance.

A maturing/mature industry is characterized, according to Porter, by slowing/modest growth and more competition for market share. However, industry maturity does not occur at any fixed point in an industry's development, and it can be delayed by innovations or other events that fuel continued growth. Moreover, mature industries may regain their rapid growth through strategic breakthroughs and thereby go through more than one transition to maturity. This notwithstanding, companies in a maturing/mature industry are increasingly selling to experienced and knowledgeable customers, and competition is shifting more and more toward greater emphasis on costs and service. Generally, there is over capacity in production and personnel, industry profits often fall and international competition increases with competitors often having difficult cost structures and different goals than domestic companies.

Transition to maturity is nearly always a critical period for companies in an industry because the above tendencies represent possible changes in the basic structure of the industry. Such a structural change may then force companies, according to Porter, to respond strategically, that is, to choose among the three general competitive strategies described above: overall cost leadership; differentiation of products and services; and focus on a particular customer, product or geographic segment. No doubt, in a maturing/mature industry, more attention to costs, customer service and true marketing (industrial and consumer) is required implying changes in organizational structures.

References

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1. M. E. Porter, Competitive Strategy, The Free Press, New York, 1980; Competitive Advantage, The Free Press, New York, 1985