C A S E

CASE PAN-EUROPA FOODS S.A.*

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It was early January, and the senior-management committee of Pan-Europa Foods was to meet to draw up the firm's capital budget for the new year. Up for consideration were 11 major projects that totaled over €208 million (euros). Unfortunately, the board of directors had imposed a spending limit of only €80 million; even so, investment at that rate would represent a major increase in the firm's asset base of €656 million. Thus the challenge for the senior managers of Pan-Europa was to allocate funds among a range of compelling projects: new-product introduction, acquisition, market expansion, efficiency improvements, preventive maintenance, safety, and pollution control.

The Company

Pan-Europa Foods, headquartered in Brussels, Belgium, was a multinational producer of high-quality ice cream, yogurt, bottled water, and fruit juices. Its products were sold throughout Scandinavia, Britain, Belgium, the Netherlands, Luxembourg, western Germany, and northern France. (See Exhibit 1 for a map of the company's marketing region.)

The company was founded in 1924 by Theo Verdin, a Belgian farmer, as an offshoot of his dairy business. Through keen attention to product development, and shrewd marketing, the business grew steadily over the years. The company went public in 1979 and by 1993 was listed for trading on the London, Frankfurt, and Brussels exchanges. Last year Pan-Europa had sales of almost €1.1 billion.

Ice cream accounted for 60 percent of the company's revenues; yogurt, which was introduced in 1982, contributed about 20 percent. The remaining 20 percent of sales was divided equally between bottled water and fruit juices. Pan-Europa's flagship brand name was "Rolly," which was represented by a fat, dancing bear in farmers' clothing. Ice cream, the company's leading product, had a loyal base of customers who sought out its high butterfat content, large chunks of chocolate, fruit, nuts, and wide range of original flavors.

Recently, Pan-Europa sales had been static (see Exhibit 2), which management attributed to low population growth in northern Europe and market saturation in some areas. Outside observers, however, faulted recent failures in new-product introductions. Most members of management wanted to expand the company's market presence and introduce more new products to boost sales. These managers hoped that increased market presence and sales would improve the company's market value. Pan-Europa's stock was currently at eight times earnings, just below book value. This price/earnings ratio was below the trading multiples of comparable companies, but it gave little value to the company's brands.

Resource Allocation

The capital budget at Pan-Europa was prepared annually by a committee of senior managers who then presented it for approval by the board of directors. The committee consisted of five managing directors, the *président directeur-général* (PDG), and the finance director. Typically, the PDG solicited investment proposals from the managing directors. The proposals included a brief project description, a financial analysis, and a discussion of strategic or other qualitative considerations.***

As a matter of policy, investment proposals at Pan-Europa were subjected to two financial tests, payback and internal rate of return (IRR). The tests, or hurdles, had been established by the management committee and varied according to the type of project:

Type of Project	*Minimum Acceptable IRR*	*Maximum Acceptable Payback Years*
1. New product or new markets	12%	6 years
2. Product or market extension	10%	5 years
3. Efficiency improvements	8%	4 years
4. Safety or environmental	No test	No test

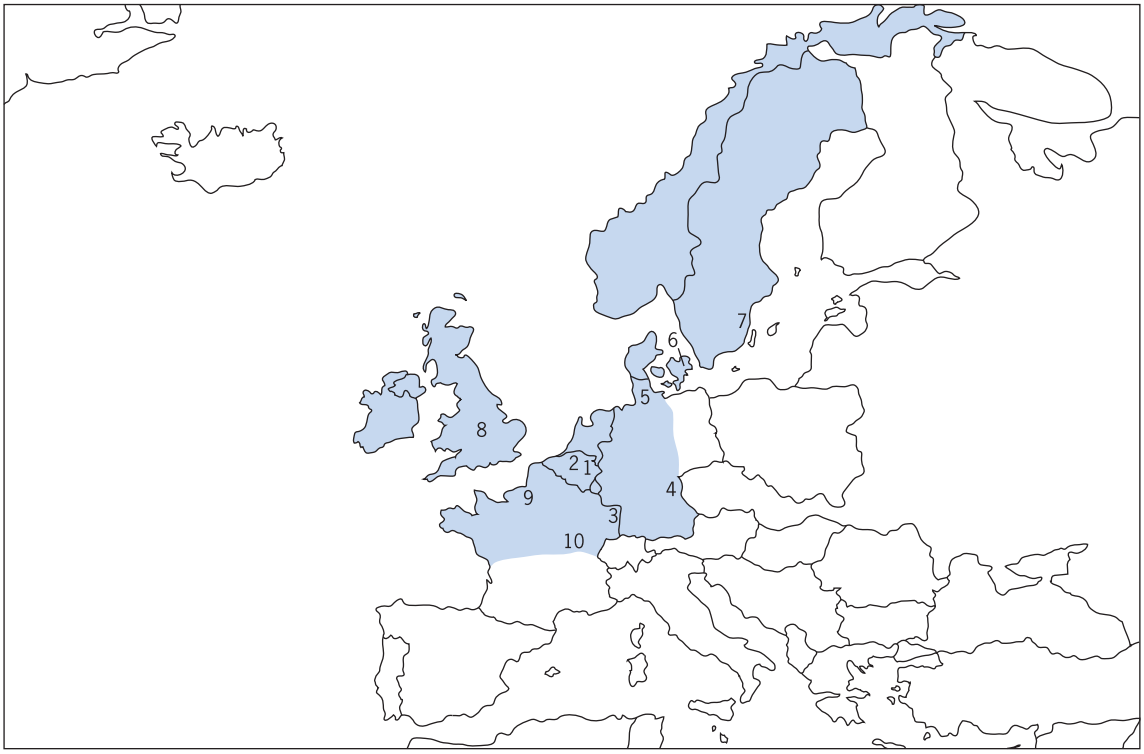

Exhibit 1 Pan-Europa Foods S. A. Nations Where Pan-Europa Competed

Note: The shaded area in this map reveals the principal distribution region of Pan-Europa's products. Important facilities are indicated by the following figures:

1. Headquarters, Brussels, Belgium
2. Plant, Antwerp, Belgium
3. Plant, Strasbourg, France
4. Plant, Nuremberg, Germany
5. Plant, Hamburg, Germany
6. Plant, Copenhagen, Denmark
7. Plant, Svald, Sweden
8. Plant, Nelly-on-Mersey, England
9. Plant, Caen, France
10. Plant, Melun, France

Exhibit 2 Summary of Financial Results (all values in € millions except per-share amounts)

Fiscal Years Ending December 31			
	Previous Year	***Last Year***	***This Year***
Gross sales	1,076	1,072	1,074
Net income	51	49	37
Earnings per share	0.75	0.72	0.54
Dividends	20	20	20
Total assets	477	580	656
Shareholders' equity (book value)	182	206	235
Shareholders' equity (market value)	453	400	229

The most recent estimated weighted-average cost of capital (WACC) for Pan-Europa was 10.5 percent. In describing the capital-budgeting process, the finance director, Trudi Lauf, said, "We use the sliding scale of IRR tests as a way of recognizing differences in risk among the various types of projects. Where the company takes more risk, we should earn more return. The payback test signals that we are not prepared to wait for long to achieve that return."

Ownership and the Sentiment of Creditors and Investors

Pan-Europa's 12-member board of directors included three members of the Verdin family, four members of management, and five outside directors who were

prominent managers or public figures in northern Europe. Members of the Verdin family combined owned 20 percent of Pan-Europa's shares outstanding, and company executives owned 10 percent of the shares. Venus Asset Management, a mutual-fund management company in London, held 12 percent. Banque du Bruges et des Pays Bas held 9 percent and had one representative on the board of directors. The remaining 49 percent of the firm's shares were widely held. The firm's shares traded in London, Brussels, and Frankfurt.

At a debt-to-equity ratio of 125 percent, Pan-Europa was leveraged much more highly than its peers in the European consumer-foods industry. Management had relied on debt financing significantly in the past few years to sustain the firm's capital spending and dividends during a period of price wars initiated by Pan-Europa. Now, with the price wars finished, Pan-Europa's bankers (led by Banque du Bruges) strongly urged an aggressive program of debt reduction. In any event, they were not prepared to finance increases in leverage beyond the current level. The president of Banque du Bruges had remarked at a recent board meeting,

> Restoring some strength to the right-hand side of the balance sheet should now be a first priority. Any expansion of assets should be financed from the cash flow after debt amortization until the debt ratio returns to a more prudent level. If there are crucial investments that cannot be funded this way, then we should cut the dividend!

At a price-to-earnings ratio of eight times, shares of Pan-Europa common stock were priced below the average multiples of peer companies and the average multiples of all companies on the exchanges where Pan-Europa was traded. This was attributable to the recent price wars, which had suppressed the company's profitability, and to the well-known recent failure of the company to seize significant market share with a new product line of flavored mineral water. Since last year, all of the major securities houses had been issuing "sell" recommendations to investors in Pan-Europa shares. Venus Asset Management in London had quietly accumulated shares during this period, however, in the expectation of a turnaround in the firm's performance. At the most recent board meeting, the senior managing director of Venus gave a presentation in which he said,

> Cutting the dividend is unthinkable, as it would signal a lack of faith in your own future. Selling new shares of stock at this depressed price level is also unthinkable, as it would impose unacceptable dilution on your current shareholders. Your equity investors expect an improvement in performance. If that improvement is not forthcoming, or worse, if investors' hopes are dashed, your shares might fall into the hands of raiders like Carlo de Benedetti or the Flick brothers.[1]

At the conclusion of the most recent meeting of the directors, the board voted unanimously to limit capital spending in the next year to €80 million.

Members of the Senior Management Committee

The capital budget would be prepared by seven senior managers of Pan-Europa. For consideration, each project had to be sponsored by one of the managers present. Usually the decision process included a period of discussion followed by a vote on two to four alternative capital budgets. The various executives were well known to each other:

Wilhelmina Verdin (Belgian), PDG, age 57. Granddaughter of the founder and spokesperson on the board of directors for the Verdin family's interests. Worked for the company her entire career, with significant experience in brand management. Elected "European Marketer of the Year" in 1982 for successfully introducing low-fat yogurt and ice cream, the first major roll-out of this type of product. Eager to position the company for long-term growth but cautious in the wake of recent difficulties.

Trudi Lauf (Swiss), finance director, age 51. Hired from Nestlé to modernize financial controls and systems. Had been a vocal proponent of reducing leverage on the balance sheet. Also had voiced the concerns and frustrations of stockholders.

Heinz Klink (German), managing director for Distribution, age 49. Oversaw the transportation, warehousing, and order-fulfillment activities in the company. Spoilage, transport costs, stock-outs, and control systems were perennial challenges.

Maarten Leyden (Dutch), managing director for Production and Purchasing, age 59. Managed production operations at the company's 14 plants. Engineer by training. Tough negotiator, especially with unions and

[1] De Benedetti of Milan and the Flick brothers of Munich were leaders of prominent hostile-takeover attempts in recent years.

suppliers. A fanatic about production-cost control. Had voiced doubts about the sincerity of creditors' and investors' commitment to the firm.

Marco Ponti (Italian), managing director for Sales, age 45. Oversaw the field sales force of 250 representatives and planned changes in geographical sales coverage. The most vocal proponent of rapid expansion on the senior-management committee. Saw several opportunities for ways to improve geographical positioning. Hired from Unilever to revitalize the sales organization, which he successfully accomplished.

Fabienne Morin (French), managing director for Marketing, age 41. Responsible for marketing research, new-product development, advertising, and, in general, brand management. The primary advocate of the recent price war, which, although financially difficult, realized solid gains in market share. Perceived a "window of opportunity" for product and market expansion and tended to support growth-oriented projects.

Nigel Humbolt (British), managing director for Strategic Planning, age 47. Hired two years previously from a well-known consulting firm to set up a strategic- planning staff for Pan-Europa. Known for asking -difficult and challenging questions about Pan-Europa's core business, its maturity, and profitability. Supported initiatives aimed at growth and market share. Had presented the most aggressive proposals in 1992, none of which were accepted. Becoming frustrated with what he perceived to be his lack of influence in the organization.

The Expenditure Proposals

The forthcoming meeting would entertain the following proposals (*see summary table also*):

1. *Replacement and expansion of the truck fleet*. Heinz Klink proposed to purchase 100 new refrigerated tractor trailer trucks, 50 this year and another 50 next year. By doing so, the company could sell 60 old, fully depreciated trucks over the two years for a total of €1.2 million. The purchase would expand the fleet by 40 trucks within two years. Each of the new trailers would be larger than the old trailers and afford a 15 percent increase in cubic meters of goods hauled on each trip. The new tractors would also be more fuel and maintenance efficient. The increase in number of trucks would permit more flexible scheduling and more efficient routing and servicing of the fleet than at present and would cut delivery times and, therefore, possibly inventories. It would also allow more frequent deliveries to the company's major markets, which would reduce the loss of sales caused by stock-outs. Finally, expanding the fleet would support geographical expansion over the long term. As shown in Exhibit 3, the total net investment in trucks of €20 million and the increase in working capital to support added maintenance, fuel, payroll, and inventories of €2 million was expected to yield total cost savings and added sales potential of €7.7 million over the next seven years. The resulting IRR was estimated to be 7.8 percent, marginally below the minimum 8 percent required return on efficiency projects. Some of the

Project	*Expenditure (€ millions)*	*Sponsoring Manager*
1. Replacement and expansion of the truck fleet	22	Klink, Distribution
2. A new plant	30	Leyden, Production
3. Expansion of a plant	10	Leyden, Production
4. Development and introduction of new artificially sweetened yogurt and ice cream	15	Morin, Marketing
5. Plant automation and conveyor systems	14	Leyden, Production
6. Effluent water treatment at four plants	4	Leyden, Production
7. Market expansion eastward	20	Ponti, Sales
8. Market expansion southward	20	Ponti, Sales
9. Development and roll-out of snack foods	18	Morin, Marketing
10. Networked, computer-based inventory-control system for warehouses and field representatives	15	Klink, Distribution
11. Acquisition of a leading schnapps brand and associated facilities	40	Humbolt, Strategic Planning

Exhibit 3 Free Cash Flows and Analysis of Proposed Projects[1] (all values in € millions)

Project		*1 Expand Truck Flect (note 3)*	*2 New Plant*	*3 Expanded Plant*	*4 Artificial Sweetener*	*5 Automation and Conveyer Systems*	*7 Eastward Expansion (note 5)*	*8 Southward Expansion (note 5)*	*9 Snack Foods*	*10 Inventory-Control System*	*11 Strategic Acquisition (note 6)*
Investment											
Property		20.00	25.00	10.00	15.00	14.00			15.00	15.00	30.00
Working Capital		2.00	5.00				20.00	20.00	3.00		10.00
	Year	**EXPECTED FREE CASH FLOWS** (note 4)									
		(11.40)	(30.00)	(10.00)	(5.00)	(14.00)	(20.00)	(20.00)	(18.00)	(12.00)	(15.00)
	1	(7.90)	2.00	1.25	(5.00)	2.75	3.50	3.00	3.00	5.50	(20.00)
	2	3.00	5.00	1.50	(5.00)	2.75	4.00	3.50	4.00	5.50	5.00
	3	3.50	5.50	1.75	3.00	2.75	4.50	4.00	4.50	5.00	9.00
	4	4.00	6.00	2.00	3.00	2.75	5.00	4.50	5.00		11.00
	5	4.50	6.25	2.25	4.00	2.75	5.50	5.00	5.00		13.00
	6	5.00	6.50	2.50	4.50	2.75	6.00	5.50	5.00		15.00
	7	7.00	6.75	1.50	5.00	2.75	6.50	6.00	5.00		17.00
	8		5.00	1.50	5.50		7.00	6.50	5.00		19.00
	9		5.25	1.50	6.00		7.50	7.00	5.00		21.00
	10		5.50	1.50	6.50		8.00	7.50	5.00		59.00
Undiscounted Sum		7.70	23.75	7.25	22.50	5.25	37.50	32.50	28.50	4.00	134.00
Payback (years)		6	6	6	7	6	5	6	5	3	5
Maximum Payback Accepted		4	5	5	6	4	6	6	6	4	6
IRR		7.8%	11.3%	11.2%	17.3%	8.7%	21.4%	18.8%	20.5%	16.2%	28.7%
Minimum Accepted ROR		8.0%	10.0%	10.0%	12.0%	8.0%	12.0%	12.0%	12.0%	8.0%	12.0%
Spread		−0.2%	1.3%	1.2%	5.3%	0.7%	9.4%	6.8%	8.5%	8.2%	16.7%
NPV at Corp. WACC (10.5%)		−1.92	0.99	0.28	5.21	−0.87	11.99	9.00	8.95	1.16	47.97
NPV at Minimum ROR		−0.13	1.87	0.55	3.88	0.32	9.90	7.08	7.31	1.78	41.43
Equivalent Annuity (note 2)		−0.02	0.30	0.09	0.69	0.06	1.75	1.25	1.29	0.69	7.33

[1]The effluent treatment program is not included in this exhibit.

[2]The equivalent annuity of a project is that level annual payment over 10 years that yields a net present value equal to the NPV at the minimum required rate of return for that project. Annuity corrects for differences in duration among various projects. For instance, project 5 lasts only 7 years and has an NPV of 0.32 million; a 10-year stream of annual cash flows of 0.05 million, discounted at 8.0 percent (the required rate of return) also yields an NPV of 0.32 million. In ranking projects on the basis of equivalent annuity, bigger annuities create more investor wealth than smaller annuities.

[3]This reflects €11 million spent both initially and at the end of year 1.

[4]Free cash flow = incremental profit or cost savings after taxes + depreciation − investment in fixed assets and working capital.

[5]Franchisees would gradually take over the burden of carrying receivables and inventory.

[6]€15 million would be spent in the first year, 20 million in the second, and 5 million in the third.

managers wondered if this project would be more properly classified as "efficiency" than "expansion."

2. *A new plant*. Maarten Leyden noted that Pan-Europa's yogurt and ice-cream sales in the southeastern region of the company's market were about to exceed the capacity of its Melun, France, manufacturing and packaging plant. At present, some of the demand was being met by shipments from the company's newest, most efficient facility, located in Strasbourg, France. Shipping costs over that distance were high, however, and some sales were undoubtedly being lost when the marketing effort could not be supported by delivery. Leyden proposed that a new manufacturing and packaging plant be built in Dijon, France, just at the current southern edge of Pan-Europa's marketing region, to take the burden off the Melun and Strasbourg plants.

   The cost of this plant would be €25 million and would entail €5 million for working capital. The €14 million worth of equipment would be amortized over seven years, and the plant over ten years. Through an increase in sales and depreciation, and the decrease in delivery costs, the plant was expected to yield after-tax cash flows totaling €23.75 million and an IRR of 11.3 percent over the next ten years. This project would be classified as a market extension.

3. *Expansion of a plant*. In addition to the need for greater production capacity in Pan-Europa's southeastern region, its Nuremberg, Germany, plant had reached full capacity. This situation made the scheduling of routine equipment maintenance difficult, which, in turn, created production scheduling and deadline problems. This plant was one of two highly automated facilities that produced Pan-Europa's entire line of bottled water, mineral water, and fruit juices. The Nuremberg plant supplied central and western Europe. (The other plant, near Copenhagen, Denmark, supplied Pan-Europa's northern European markets.)

   The Nuremberg plant's capacity could be expanded by 20 percent for €10 million. The equipment (€7 million) would be depreciated over seven years, and the plant over ten years. The increased capacity was expected to result in additional production of up to €1.5 million per year, yielding an IRR of 11.2 percent. This project would be classified as a market extension.

4. *Development and introduction of new artificially sweetened yogurt and ice cream*. Fabienne Morin noted that recent developments in the synthesis of artificial sweeteners were showing promise of significant cost savings to food and beverage producers as well as stimulating growing demand for low-calorie products. The challenge was to create the right flavor to complement or enhance the other ingredients. For ice-cream manufacturers, the difficulty lay in creating a balance that would result in the same flavor as was obtained when using natural sweeteners; artificial sweeteners might, of course, create a superior taste.

   €15 million would be needed to commercialize a yogurt line that had received promising results in laboratory tests. This cost included acquiring specialized production facilities, working capital, and the cost of the initial product introduction. The overall IRR was estimated to be 17.3 percent.

   Morin stressed that the proposal, although highly uncertain in terms of actual results, could be viewed as a means of protecting present market share, because other high-quality ice-cream producers carrying out the same research might introduce these products; if the Rolly brand did not carry an artificially sweetened line and its competitors did, the Rolly brand might suffer. Morin also noted the parallels between innovating with artificial sweeteners and the company's past success in introducing low-fat products. This project would be classed in the new-product category of investments.

5. *Plant automation and conveyor systems*. Maarten Leyden also requested €14 million to increase automation of the production lines at six of the company's older plants. The result would be improved throughput speed and reduced accidents, spillage, and production tie-ups. The last two plants the company had built included conveyer systems that eliminated the need for any heavy lifting by employees. The systems reduced the chance of injury to employees; at the six older plants, the company had sustained an average of 75 missed worker-days per year per plant in the last two years because of muscle injuries sustained in heavy lifting. At an average hourly wage of €14.00 per hour, over €150,000 per year was thus lost, and the possibility always existed of more serious injuries and lawsuits. Overall cost savings and depreciation totaling €2.75 million per year for the project were expected to yield an IRR of 8.7 percent. This project would be classed in the efficiency category.

6. *Effluent water treatment at four plants*. Pan-Europa preprocessed a variety of fresh fruits at its Melun and Strasbourg plants. One of the first stages of processing involved cleaning the fruit to remove dirt and

pesticides. The dirty water was simply sent down the drain and into the Seine or Rhine rivers. Recent European Community directives called for any waste water containing even slight traces of poisonous chemicals to be treated at the sources and gave companies four years to comply. As an environmentally oriented project, this proposal fell outside the normal financial tests of project attractiveness. Leyden noted, however, that the water-treatment equipment could be purchased today for €4 million; he speculated that the same equipment would cost €10 million in four years when immediate conversion became mandatory. In the intervening time, the company would run the risks that European Community regulators would shorten the compliance time or that the company's pollution record would become public and impair the image of the company in the eyes of the consumer. This project would be classed in the environmental category.

7. and **8.** *Market expansions eastward and southward.* Marco Ponti recommended that the company expand its market eastward to include eastern Germany, Poland, Czechoslovakia, and Austria and/or southward to include southern France, Switzerland, Italy, and Spain. He believed the time was right to expand sales of ice cream, and perhaps yogurt, geographically. In theory, the company could sustain expansions in both directions simultaneously, but practically, Ponti doubted that the sales and distribution organizations could sustain both expansions at once.

Each alternative geographical expansion had its benefits and risks. If the company expanded eastward, it could reach a large population with a great appetite for frozen dairy products, but it would also face more competition from local and regional ice cream manufacturers. Moreover, consumers in eastern Germany, Poland, and Czechoslovakia did not have the purchasing power that consumers did to the south. The eastward expansion would have to be supplied from plants in Nuremberg, Strasbourg, and Hamburg.

Looking southward, the tables were turned: more purchasing power and less competition but also a smaller consumer appetite for ice cream and yogurt. A southward expansion would require building consumer demand for premium-quality yogurt and ice cream. If neither of the plant proposals (i.e., proposals 2 and 3) were accepted, then the southward expansion would need to be supplied from plants in Melun, Strasbourg, and Rouen.

The initial cost of either proposal was €20 million of working capital. The bulk of this project's costs was expected to involve the financing of distributorships, but over the ten-year forecast period, the distributors would gradually take over the burden of carrying receivables and inventory. Both expansion proposals assumed the rental of suitable warehouse and distribution facilities. The after-tax cash flows were expected to total €37.5 million for eastward expansion and €32.5 million for southward expansion.

Marco Ponti pointed out that eastward expansion meant a higher possible IRR but that moving southward was a less risky proposition. The projected IRRs were 21.4 percent and 18.8 percent for eastern and southern expansion, respectively. These projects would be classed in the new market category.

9. *Development and roll-out of snack foods.* Fabienne Morin suggested that the company use the excess capacity at its Antwerp spice and nut-processing facility to produce a line of dried fruits to be test-marketed in Belgium, Britain, and the Netherlands. She noted the strength of the Rolly brand in those countries and the success of other food and beverage companies that had expanded into snack food production. She argued that Pan-Europa's reputation for wholesome, quality products would be enhanced by a line of dried fruits and that name association with the new product would probably even lead to increased sales of the company's other products among health-conscious consumers.

Equipment and working-capital investments were expected to total €15 million and €3 million, respectively, for this project. The equipment would be depreciated over seven years. Assuming the test market was successful, cash flows from the project would be able to support further plant expansions in other strategic locations. The IRR was expected to be 20.5 percent, well above the required return of 12 percent for new-product projects.

10. Networked, computer-based inventory-control system for warehouses and field representatives. Heinz klink had pressed for three years unsuccessfully for a state-of-the-art computer-based inventory-control system that would link field sales representatives, distributors, drivers, warehouses, and even possibly retailers. The benefits of such a system would be shortening delays in ordering and order processing, better control of inventory, reduction of spoilage, and faster recognition of changes in demand at the customer level. Klink was reluctant to quantify these

benefits, because they could range between modest and quite large amounts. This year, for the first time, he presented a cash-flow forecast, however, that reflected an initial outlay of €12 million for the system, followed by €3 million in the next year for ancillary equipment. The inflows reflected depreciation tax shields, tax credits, cost reductions in ware-housing, and reduced inventory. He forecasted these benefits to last for only three years. Even so, the project's IRR was estimated to be 16.2 percent. This project would be classed in the efficiency category of proposals.

11. *Acquisition of a leading schnapps brand and associated facilities*. Nigel Humbolt had advocated making diversifying acquisitions in an effort to move beyond the company's mature core business but doing so in a way that exploited the company's skills in brand management. He had explored six possible related industries, in the general field of consumer packaged goods, and determined that cordials and liqueurs offered unusual opportunities for real growth and, at the same time, market protection through branding. He had identified four small producers of well-established brands of liqueurs as acquisition candidates. Following exploratory talks with each, he had determined that only one company could be purchased in the near future, namely, the leading private European manufacturer of schnapps, located in Munich.

The proposal was expensive: €15 million to buy the company and €25 million to renovate the company's facilities completely while simultaneously expanding distribution to new geographical markets.[2] The expected returns were high: after-tax cash flows were projected to be €134 million, yielding an IRR of 28.7 percent. This project would be classed in the new-product category of proposals.

Conclusion

Each member of the management committee was expected to come to the meeting prepared to present and defend a proposal for the allocation of Pan-Europa's capital budget of €80 million. Exhibit 3 summarizes the various projects in terms of their free cash flows and the investment-performance criteria.

QUESTIONS

1. Strategically, what must Pan-Europa do to keep from becoming the victim of a hostile takeover? What rows/categories in Exhibit 2 will thus become critically important this coming year? What should Pan-Europa do now that they have won the price war? Who should lead the way for Pan-Europa?
2. Using NPV, conduct a straight financial analysis of the investment alternatives and rank the projects. Which NPV of the three should be used? Why? Suggest a way to evaluate the effluent project.
3. What aspects of the projects might invalidate the ranking you just derived? How should we correct for each investment's time value of money, unequal lifetimes, riskiness, and size?
4. Reconsider the projects in terms of:
   - are any "must do" projects of the nonnumeric type?
   - what elements of the projects might imply greater or lesser riskiness?
   - might there be any synergies or conflicts between the projects?
   - do any of the projects have nonquantitative benefits or costs that should be considered in an evaluation?
5. Considering all the above, what screens/factors might you suggest to narrow down the set of most desirable projects? What criteria would you use to evaluate the projects on these various factors? Do any of the projects fail to pass these screens due to their extreme values on some of the factors?
6. Divide the projects into the four project categories of derivative, platform, breakthrough, and R&D. Draw an aggregate project plan and array the projects on the chart.
7. Based on all the above, which projects should the management committee recommend to the Board of Directors?

[2]Exhibit 3 shows negative cash flows amounting to only €35 million. The difference between this amount and the €40 million requested is a positive operating cash flow of €5 million in year 1 expected from the normal course of business.