

THE HEADQUARTERS

1. Missions

Headquarters include a centralized purchasing department and administrative services.

1.1. Purchasing department

This centralized department is in charge of negotiating purchasing prices with raw material suppliers as well as payment and delivery terms. The firm's general policy is to keep one single supplier for each kind of raw material (three types of textiles and three types of supply kits). A zero-stock policy for raw materials has also been recently implemented. Prices are negotiated in January and remain stable for the whole year. These prices are a function of annual volumes purchased. Payment terms are currently equal to 90 days for textiles and 60 days for supply kits.

The purchasing department's budget includes:

- Costs of raw materials purchased
- Wage expenses
- Raw materials transportation costs

1.2. Administrative services

Administrative services include general management, human resources and finance.

1.2.1. Human resources

The human resources service is in charge of:

- Defining annual increases of wages
- Hiring and dismissal, based on other department's needs

1.2.2. Finance

The finance service is in charge of the overall investment budget of the company. Sales and production departments have to send a written request for investment which is accepted or rejected by the finance service. This service is also in charge of the long-term and short-term financial management of the company¹. Long-term investments are generally financed by long-term debt (current interest rate = 5.4%).

The budget for administrative services (human resource and finance) includes:

- Overheads (wages, buildings, supplies, operating costs)
- Financial expenses and revenues

2. Personnel

Number of employees and wages are detailed below.

2.1. Sales department

This department is currently employing 45 salespersons, a sales manager and 15 administrative persons. In 20n, salespersons are paid a fixed gross salary of € 23,000 and a commission that amounts 1.4% of sales turnover. The sales manager earns a fixed gross salary equal to € 84,000. Administrative persons are paid € 22,000 exclusive of social charges.

2.2. Production department

Workers are divided into two workshops: 17 of them are working for the cutting shop and 542 in the assembly shop. In 20n, these workers are paid € 1,340 per month, exclusive of social charges and inclusive of a € 120 long-service bonus. This bonus is acquired at the beginning of the second year spent within the company. A total of 23 foremen is required for supervision. In 20n, these are paid € 23,000 exclusive of social charges. The plant director earns a gross salary equal to € 71,000 (including a € 10,000 bonus). The production department also employs a production manager (paid € 34,000), 7 persons dedicated to

¹ The cash budget will be prepared after the adoption of each department's specific budget.

procurement tasks (paid € 22,000 each), and 30 persons dedicated to administrative tasks (paid € 23,000 each).

2.3. Headquarters services

2.3.1. Administrative services

These services employ:

- A CEO, paid € 99,000 exclusive of social charges
- A Human Resource Director, paid € 61,000 exclusive of social charges
- A CFO, paid € 69,000 exclusive of social charges
- Three secretaries, paid € 20,000 each, exclusive of social charges
- Three product designers, paid € 50,000 each, exclusive of social charges

2.3.2. Purchasing department

This department employs:

- A Purchasing Director, paid € 46,000 exclusive of social charges
- Two assistants, paid € 20,000 each, exclusive of social charges

In 20n, entertainment costs for all headquarters services (administrative and purchasing) are equal to € 366,000.

2.4. Social policy

Wages are paid within the corresponding month. Commissions are paid with a one-month delay. Annual bonuses are paid in December. The social charges rate is equal to 40%. Social charges are payable each quarter and paid with a one-month delay. Wage increases for 20n+1 have been set to 2% for all employees with at least two years of seniority. Newly hired employees are paid at the 20n rates. No employees were hired in 20n.

Concerning production workers, hiring and dismissal terms are set by the human resources department. Redundancy payments are equal to 2 months of salary for workers and 3 months for foremen. If requested by a department, a driver could be hired and would be paid € 20,000 exclusive of social charges. There should be no hiring for the headquarters.

Recently, the CEO has raised the question of the optimal management of work force. A special study has been launched for the assembly workshop. In this shop, 20 workers will retire at the end of year 20n. Hence, the work force capacity has to be adjusted to the production schedule. There are three possible solutions. The CEO is waiting for a clear statement of the pros and cons of each of these as well as an estimation of their cost.

The first solution consists in hiring new workers on non-fixed term contract. Each employee works 35 hours a week. This represents an annual working time of 1,600 hours per employee. On this basis, one must take into account:

- A 5% rate of absenteeism
- A 5% rate dedicated to break time
- A 2% rate dedicated to training

This leads to an available annual working time of $1,600 - 12\% = 1,408$ hours per employee. Productivity is measured by dividing the theoretical working time ("scale" time) needed by the available working time. In 20n, the productivity was equal to 75%, meaning that employees have spent more time than theoretically needed to produce the output. Hence, the effective working time was equal to $1408 * 75\% = 1,056$ hours. However, for newly hired employees, the productivity rate is only equal to 70% during the first year due to inexperience.

The second solution consists in increasing the number of overtime hours, which is currently limited to 13 hours per employee and per year. The maximum limit for overtime is 11 hours per week and 130 hours per year. The productivity level during overtime hours is equal to 85%. Overtime hours are paid 125% of the normal rate from the 36th to the 43rd hour (included). Beyond this point, the rate increases to 150%.

The third solution consists in hiring interim workers. Interim workers have a productivity level of 60%. They have no break time or training, whereas absenteeism is identical to workers with non-fixed term contracts. They are paid € 14.9 per hour.

3. Long-lived assets and investments

Headquarters are in charge of long-lived assets management as well as the capital investment budget.

3.1. Long-lived assets

The buildings and plant occupied by the company are rented. The rent of the buildings used by headquarters and sales department amounts to € 183,000. It is paid by the administrative services. The plant's rent is paid by the production department and amounts to € 502,000.

Furthermore, the company has a population of machines. All machines are assumed to have an identical capacity and a useful life of 10 years. The straight-line method is used for depreciation. Acquisition costs vary based on the acquisition date of the machines. In $20n$, 17 machines are in order. This corresponds to a total capacity of 43,350 machine hours (each machine has a capacity of $2,550 = 51 \text{ weeks} * 5 \text{ days per week} * 10 \text{ hours per day}$). Machines are used indifferently for any of the three products. The acquisition cost for a new machine in $20n+1$ will be equal to € 183,000.

In $20n$, the machine population is composed as follows:

Acquisition date	Number of machines	Acquisition cost per unit
1/1/20n-9	3	€ 155,000
1/1/20n-7	4	€ 163,000
1/1/20n-5	3	€ 165,000
1/1/20n-2	5	€ 171,000
1/1/20n-1	2	€ 175,000

The company has also a fleet of vehicles for its sales force. Every new salesperson is equipped with a Renault Clio. These vehicles have a useful life of 3 years. The straight-line method is used for depreciation. In $20n$, a salesperson is covering an average of 30,000 Km. The sales manager is driving a Peugeot 406.

In 20n, the vehicle fleet is composed as follows:

Vehicle	Number	Acquisition cost per unit	Acquisition date
Renault Clio	15	€ 9,150	1/1/20n-2
Renault Clio	15	€ 9,600	1/1/20n-1
Renault Clio	15	€ 10,050	1/1/20n
Peugeot 406	1	€ 22,800	1/1/20n

Finally, the company owns office supplies and computers for a total of € 760,000. These equipments were acquired on 1/7/20n-2. They are depreciated over a 5-year period, using the straight-line method.

3.2. The capital investment budget for 20n+1

Based on the operational 3-year plan, the 20n+1 capital investment budget for new machines is limited to M€ 1.7. The acquisition of new cars for the sales force is not taken into account in this maximum budget. The acquisition cost of a Clio in 20n+1 is estimated to be € 10,500.

Moreover, the opportunity of bringing the transportation of raw materials back in-house has been discussed in 20n. This would require the acquisition of a truck for a cost of € 76,000. Its useful life would be 5 years (straight-line depreciation). Its gas consumption is equal to 15 liters per 100 Km @ € 0.8 per liter. Maintenance and other related costs would amount to € 1,900 per year.

New investments will be financed by long-term debt @ 4.8%.

4. Purchasing policies

4.1. Suppliers and purchasing conditions for the year 20n

Reference	Supplier	Prices ²	Distance
Simple cotton	Cotonou	Q<400,000 P = € 3.05	100 Km
		400,000<Q<600,000 P = € 2.90	
		Q>600,000 P = € 2.75	
Paddled cotton	Molletonou	Q<700,000 P = € 3.96	80 Km
		700,000<Q<900,000 P = € 3.81	
		Q>900,000 P = € 3.66	
Gore-tex	Goretou	Q<300,000 P = € 5.59	150 Km
		300,000<Q<700,000 P = € 5.18	
		Q>700,000 P = € 4.88	
A-type supply kits	Kitou	Q<600,000 P = € 0.30	20 Km
		Q>600,000 P = € 0.23	
B-type supply kits	Kitou	Q<600,000 P = € 0.61	20 Km
		Q>600,000 P = € 0.53	
C-type supply kits	Kitou	Q<300,000 P = € 1.83	20 Km
		Q>300,000 P = € 1.52	

The term of payment for Cotonou, Molletonou, and Goretou is 90 days starting from the reception of merchandise. Concerning Kitou, the term of payment is 60 days.

4.2. Evolution of purchasing prices for the year 20n+1

Textile suppliers have announced that they will increase their prices by 3%.

² One single price is applied to the whole quantity bought to a supplier, based on the quantity purchased over the whole year. The price given is per meter of textile.

4.3. Raw materials transportation

The purchasing department is in charge of raw materials transportation prices negotiations. For the year 20n, transportation has been sub-contracted to a third party: Livretou. This company is charging the following prices:

- € 0.04 for one roll of textile per Km covered
- € 0.015 for 100 kits per Km covered

A roll of textile is made of 100 meters. The number of kilometers covered is computed on the basis of the distance between the supplier and the company's plant.

The purchasing manager is thinking about bringing back in-house this transportation activity. The administrative services have the information needed to evaluate such a project. The transportation truck would cover 38,000 Km per year.

Required work:

1) Purchasing department

- a- Determine the purchasing prices for the year 20n+1
- b- Decide whether to internalize transportation or not
- c- Prepare the monthly purchasing plan
- d- Prepare a yearly and monthly budget for the department

2) Administrative services

- a- Determine, in cooperation with the other departments, the number of employees to hire and/or to dismiss and the increase in salaries
- b- Compare the cost of the three solutions for optimal management of work force
- c- Determine the investments to be made for the year 20n+1 in cooperation with the other departments and evaluate the amount of depreciations
- d- Prepare a yearly and monthly budget for the administrative services