Part II

Company D_1

This was the Birmingham branch of an organisation which had its head office and main production unit some 50 miles away. The company also had offices in Wales and in the North of England, and employed approximately 230 people in total. Only 10 of these were located in Birmingham providing a turnover of between £16,000 and £24,000 out of the company's total turnover of £500,000+. This was a private limited liability company which did not reveal its profit figures to the Branch Manager.

The Branch Manager was an artist before he took up a long service commission in H.M. Forces. At the end of that time he returned to civilian life and obtained his present employment as Branch Manager of a display producing and screen printing firm. This meant a considerable drop in salary and status but nevertheless he has remained with the firm for over 15 years. During that time the business has not changed significantly in size or turnover.

The company has no written statement of objectives or policies and the Branch Manager seems concerned only to maintain turnover and profitability so that he is not reprimanded by head office. Turnover is agreed between the Branch Manager and the Sales Director but the profitability objective is hidden within a 'prescribed' margin recommended by 'head office'. When something goes wrong a meeting is arranged to discuss the situation; the conclusion arrived at is then confirmed in writing and these communications form the guidelines for decision making by the Branch Manager. Personal communication with the Managing Director is achieved through one of the local representatives who is himself a director of the company.

There are two representatives in the Birmingham area who call daily with those orders which they feel may be handled locally. The choice of orders entrusted to the Birmingham unit gave the Branch Manager some cause for concern. He felt that only the difficult orders were left with him and the more remunerative ones were returned to head office. Since one of his major responsibilities was to maintain average turnover per head of the numbers employed, this 'unfair' selection was a source of frustration. There was one other cause for concern in the fact that although there were two representatives in his territory he had no control whatsoever over their activities. This gave very little real control over the flow of orders received other than that which resulted from his own efforts.

The central accounting department at head office calculated overhead costs and profit and 'recommended' a margin of 50% be added to total labour costs for work done at Birmingham,

and 20% to be added to material cost to cover wastage and material handling charges. This was not a rigid instruction and the Branch Manager was permitted to use his discretion provided that the total monthly figures did not fall below this level. The Branch Manager maintained only a rough estimate of total costs but felt that his estimated profit margin was always greater than that calculated by the company's accountant, i.e. the profit margin achieved on work done in Birmingham was more than satisfactory'. This meant that his 'prescribed' prices were always a little higher than his competitors and hence he was continually being obliged to reduce his quotation in order to obtain the order. The market in Birmingham was a very competitive one but, strangely enough, there was "no way of finding out what competitors' prices were". When sales were falling it was assumed that this was because the prices quoted were too high and that the only remedy was to reduce prices. However, in answer to the question concerning the main factors influencing the customer, the Manager placed quality and delivery above price.

Most orders were obtained as a result of quotations issued although there were a few customers who sent in work without requiring a quotation. The manager adhered to the prescribed formula as far as possible but he was 'often' obliged to reduce the price to meet competition for example, by changing the quotation from 2/7d per unit to 2/5d per unit. On rare occasions the margin was increased to take advantage of an abnormal situation where special materials or urgent delivery was required. In such cases the margin could be increased to 100% instead of the normal 50%.

A record of the material and labour cost incurred for each order was forwarded to the accounts section at the head office who then issued the necessary invoices to the customer.

Summary

This was an interesting case study of conflicting objectives between the Branch Manager, who was mainly concerned to "hang on" as he put it, and the Board of Directors, who wished to maintain the profit level. The Branch Manager was not told what this profit level was but appeared to be criticized when it was not maintained. He also seemed to be responsible for maintaining the appropriate level of sales without having any real control over the representatives who were the main instruments for soliciting orders. This state of affairs was confused still further by policy statements which arose through a process of 'case law'.

Although the Branch Manager felt that quality and delivery were of greater importance to customers than price, his assumptions about competition were met by direct recourse to price.

Unfortunately it was not possible to check the proportion of orders for which the prescribed rate had been reduced nor the resulting loss of profit but from the comments made by the Manager about his recent summons to the head office it would appear that they were not insignificant.

Company D_2

This company was first registered by its present Managing Director in 1958. By training the proprietor was a silk screen printer whose purpose in starting a business of his own was "to make a reasonable living and escape from the authority of other people". At that stage in the post-war era the market for silk screen printing was growing fairly rapidly and the company itself quickly outgrew its original 1000 square feet of floor space. To cope with the increasing demand, and to allow room for further expansion, the company moved into new premises which provided 10,000 square feet of floor space. Unfortunately the upswing in demand for the type of work had just about reached its peak and the company soon found its flow of orders diminishing. This drop in the level of activity ultimately resulted in a reduction in the labour force. By the time of the interview early in 1968 the number of people employed had fallen from the peak of 14 to 9. It was clear that the new premises had never been fully utilised and the dominant objective, ever since the firm had moved in, had been to fill the available capacity.

Originally both ownership and control had rested with the Managing Director. By the end of 1966 the firm was running into financial difficulties and additional capital was recruited from another firm in the same industry. The two Managing Directors of D_{11} each provided £1500 which, with the original proprietor's £1500, made a total issued capital of £4500. Thus the controlling interest had moved outside the company although managerial control remained with the original owner.

The long-term objectives of the company were concerned with growth and profitability but short term objectives were stated as "if I can retain £1000 net after tax from a turnover of £30,000 I am satisfied". In 1966 the net return after tax had been £500 on a turnover of £28,000. One of the difficulties involved when discussing profit is the relationship between the owner/manager's salary and his total return. In this survey no attempt was made to analyse the financial return except in so far as it was relevant to the discussion on pricing. Once more neither objectives nor policies appeared in written form.

Price policy was given as "full cost + 12½%". This policy was formulated by the Managing Director and implemented by him also since all quotations and costings went through his hands. He did make the point that this was the normal procedure but that he did vary the margin occasionally if circumstances were abnormal. Thus if the company was operating well below capacity level he would reduce the overhead percentage added to labour costs from 200% to 100%.

An example of the pricing technique used is given below.

		£	s	d
Job 'X'	Labour	20	0	0
+ 200%	overheads	40	0	0
		60	0	0
+ 12½%	profit	7	10	0
		67	10	0
	Materials (min. charge £4. 10. 0	33	10	0
12½% waste) 12½% profit) + 25%		8	7	6
		109	7	6
	Subcontracted work	14	0	0
	+ 12½% profit	1	15	0
	Price charge	125	2	6
In this case the profit amounted to		7	10	0
		4	3	9
		1	15	0
		13	8	9

A reduction of overhead charges from £40 to £20 would have resulted in a net loss of £6. 11. 3! It was not possible to obtain information on the proportion of orders which were treated in this way but from the emphasis on turnover, and the results for 1966, it would appear that it is not an insignificant amount.

It was interesting to find that the Managing Director still felt that customers were mainly concerned with quality, and delivery, and then price. "We sell ideas; know how". He complained that competition in the industry appeared to be increasing despite the fact that the market itself was fairly static. This was due to the advent of larger companies originally concerned with the manufacture of greetings cards but who were now beginning to infiltrate the display and screen printing market. There was already some excess capacity in the industry before this happened so now prices obviously had to be competitive.

Information about current prices was obtained from customers on a personal basis (since the representative had left), from colleagues in the Display Producers and Screen Printers Association, and from the associated company. A little information was also obtained through work

subcontracted to other firms. This had amounted to approximately 15% of turnover in recent years. In discussing the relationship between the buyer and the firm the Managing Director commented on the frequency with which the buyer was changed. A new kind of professionalism seemed to be emerging which was gradually eliminating the problem of "fringe benefits" for which he seemed grateful.

Only approximately 10% of the orders received required no quotation. The other 90% was obtained in competition with other firms in the industry.

Summary

This was one of the smallest companies visited and one of the least sophisticated in terms of policies and procedures. There appeared to be no accurate information about material and labour costs and the costing and estimating system was largely based upon experience. Control was virtually non existent and a question concerning the difference between the £500 obtained in 1966 and the profit margin intended was left unanswered. It was a question which had obviously not arisen previously and a situation which had not been investigated.

The dominant objective was clearly to survive, and, if possible, to utilise some of the unused capacity, which was considerable. At no time, however, was there any indication that the company had considered moving out of the existing accommodation into something smaller, and perhaps less expensive. The subordination of all other activities to the problem of maintaining turnover in this case appeared to be one which could have dangerous consequences.

Company D_3

Unlike many of its competitors in the display industry D_3 was a 'regenerated' company. It was originally registered in 1936 by a person whose name is still included in the title. When the original owner wished to be relieved of his responsibilities in 1955 the firm was taken over by a group of ten people, two of whom were the joint Managing Directors at the time of the survey. Each of the Managing Directors held 15% of the voting capital of the company. The controlling interest rested with two directors of a local advertising agency each of whom held 30% of the voting capital. The remaining 10% was distributed between four people. Since the visit both the Company Secretary and the Works Manager have been made directors of the firm with a nominal share holding.

It was not possible to obtain information about the original objectives of the ten people concerned with the take-over but the two Managing Directors indicated that they wanted "to build up a business for our respective families, but now they don't seem to be interested".

In the years following 1955 the company grew quite rapidly until it reached a total of 14 employees. Since then the number had remained fairly constant even though the company was rehoused in a 'flatted' factory unit in 1963, a move which provided a little more space than had been available previously. There were certain obvious advantages which the firm enjoyed as a result of the move, the physical amenities and services were very much better than in their previous location, but there was one very significant disadvantage, the rent of the new premises was nearly ten times that of the previous accommodation, and this created acute problems.

At the time of the interview only 7 members of the labour force were at work. The remainder were away either ill or on holiday. However, this did not seem to be creating many problems for the company, perhaps because of the low level of orders at that time.

This fluctuation in the level of activity is not unusual in the industry and reflects the sporadic nature of demand. Unfortunately when orders are received they are usually required urgently and this means that most companies in the industry carry a labour force in excess of that which would be required to carry out the work in the normal way. Thus a firm may require its staff to work overtime one day to meet a deadline on a particular order knowing quite well that there are insufficient orders on hand to fill the next few normal working days.

Company objectives and policies were not issued in written form an, in fact, when asked about objectives the directors said, "we don't have any really". Later in the discussion it

appeared that the main objective was to maintain turnover at £25,000, as in the previous year, and also to achieve the same level of profit as before. There was some doubt about the company' ability to succeed in this latter aim because "costs are continually increasing so we expect profit to be smaller".

The directors claimed that the company was a happy one, if not an adventurous one. But although they were modest about their ambitions they had recently bought some new automatic equipment which provided them with a temporary monopoly of one particular kind of screen printing in the Midlands. This, they stated, was done partly because they had a feeling of responsibility for the Works Manager who was considerably younger than they were and needed some reassurance about his future and that of the company. The two Managing Directors were both well over 60 and one had recently suffered a serious illness and was obliged to take things quietly.

The new process enabled the company to obtain approximately 90% of that kind of business available in this area. This still represented only a small proportion of their turnover but the demand was showing some signs of growth. 75% of the orders came from Local Authorities and the Nationalised Industries. This item of information was rather interesting because it followe the description of a distressing period in the company's history. It appeared that some years previously the company had acquired a large customer whose demand had grown rapidly and had eventually taken up their entire capacity. The customer had then gone into liquidation and left D_3 in a very precarious position. The moral of the story appeared to be that the company should not put 'all its eggs in one basket', nevertheless 75% of its turnover was obtained from Local Authorities and the Nationalised Industries, and the volume of orders received from this latter source was not very significant.

The company employed one representative but the directors felt that this person was not really necessary because "the customers find us". They also explained that customers normally came to the firm with urgent, high-quality jobs which no-one else would undertake. The firm accepted this role as a matter of policy and took pride in the fact that it was able to give this service to the customer.

The firm's price policy was incorporated in the statement "a high price for high quality" The directors, who actually priced all orders and made all the necessary quotations, were not prepared to divulge the precise figures involved in the pricing process. They, did however, outline the formula used which was as follows.

Material costs + 15%

Labour costs + x% for overheads ____________________

Total

+ 10/15% margin for error ____________________

Price ____________________

If the order was placed by an Advertising Agent the company added a further 18½% to the price calculated in order to be able to show a discount of 15% on the invoice. There were other less formal deviations from the calculated price which were implemented at the discretion of the two Managing Directors. The amount of margin added for overheads could vary by ± 50% depending on the size of the order; a repeat order might also be quoted at 2% to 5% below a similar order quoted to a different customer. There were no standard rules by which these deviations operated and the directors seemed to use their discretion on a very subjective basis. The general level of prices was unchanged between 1965 and 1967 but there had been a quite significant increase in 1968 which customers were notified about. The relationship between the buyers and the company was kept fairly formal and there were no 'fringe benefits' even at Christmas time.

Information on prices came by feedback from the customer, from jobs which were subcontracted, and from contact with other members of the industry in the trade association meetings. The market for the normal products of the screen printing industry was seen to be quite competitive but the firm felt that it had acquired a reputation in the less competitive sector which was concerned with quality and delivery and where price was rather less important. The directors felt that price would have to change "quite a lot" before turnover would be affected. This would certainly be true in the area covered by the new equipment.

Summary

This was one of the smaller companies in the industry trying very hard to keep going. There was no evidence of any new ideas coming from within the company although the purchase of new equipment showed that the directors were still willing, and able, to react to ideas from outside.

The basic objective was clearly one of survival, and the dominant one that of maintaining turnover. The pricing process appeared to be an intuitive one with the costing formula providing a fairly crude break even basis; its lack of precision is indicated by the +10/15% margin for error.

As with many other small companies there appeared to be some excess capacity and a marked lack of ability, or willingness, to diversify its output in an attempt to stabilise the flow of production.

Company D_4

This was one of the firms in the industry established before 1939. It was first registered in 1908 by the father of the present Managing Director and has thus "been actively engaged in producing posters, signs, showcards and point of sale display items for over 60 years". The founder of the company was an artist by profession but the present proprietor was trained as an engineer draughtsman and had no desire whatsoever to enter his father's business. After the war the present Managing Director was obliged to join the firm in order to take over responsibility from his ailing father, and to provide some means of support for both familes. So while the original objective of the founder was not determinable, that of his successor was clearly to provide an income for his father and himself as quickly as possible.

The company was a private one with limited liability and the entire share capital was retained by the M.D. and his wife. Majority share ownership and the managerial control rested with the Managing Director.

Three years prior to the survey the firm had moved from its original accommodation to new premises. This was necessary because of redevelopment work scheduled for the area in which it was located. However, the new premises were designed to provide additional space to allow for expansion. Within a short period of the move the numbers employed had risen to 20 people but subsequently diminished to a total of 16, including the Managing Director, and was fairly static at that level. Turnover for the last financial year was "between £20,000 and £30,000".

There were no written statements of objectives and policies in this company and there was ample evidence that the Managing Director considered it quite unnecessary to communicate such thoughts to other members of the organisation. The only other executive in the company was the production shop foreman who was concerned almost exclusively with the physical side of production. The Managing Director complained of being continually under pressure because he bore the entire burden of administration. He was unable to delegate responsibility because there was "no one else to delegate it to". His own financial objective was " to make as much as you can". There was also a desire to increase sales in order to utilise the spare capacity which still existed in the new premises. In order to achieve this a young representative had been recruited about 12 months previously. This salesman had been instructed to "play it straight; no golf, no bribery, no drinking, just go out and get the orders". As a matter of policy the labour force was kept at a minimum so that they were always under pressure. This, the Managing Director maintained, was the way you avoided excess costs and made the profit.

90% of the orders received were obtained as the result of a quotation made previously. Price was not, however, seen to be the dominant factor. The Managing Director felt that the customer was primarily concerned with quality and delivery and only then was the question of price relevant. Nevertheless the firm's price policy was to be competitive and this was done "by keeping your ear to the ground". Information about competitive prices was obtained from customers, from the firm's own representative, and from suppliers' representatives who called regularly and passed on information they had gleaned on their travels.

There was a marked reluctance to talk about the pricing technique but the Managing Director did eventually indicate that the formal procedure involved an addition of 12½% to total costs (including overheads). At this point a subjective decision was taken whether to modify the final figure in the light of circumstances known to the company. It was not possible to determine the proportion of quotations which were modified in this way but the actual costing process appeared to be fairly precise and quite detailed. This precision was explained by reference to the owner's training and experience as an Air Inspection Department Officer during the last war.

Summary

This was a typical charismatic type organisation dominated and administered by one man. Despite the smallness of the company this was quite a large responsibility for one man to undertake and it was obviously having its effect upon that person. Strangely enough it seemed as if the Managing Director was aware of this fact and there was a curious urgency about his statement that the objective was "to make as much as you can". There was also a strong resistance to revealing information which could be of interest to his competitors but an eagerness to discuss the day to day difficulties of managing a small company.

The costing system appeared to be precise and detailed although it was not possible to assess its accuracy. Pricing policy was to be competitive but there were occasions when price was increased in order to take advantage of special circumstances, or decreased to enhance the chances of obtaining an order when sales were falling.

The market was seen to be competitive, yet once again a greater emphasis was given to quality and delivery than to price.

Company D_5

D_5 was first registered as a partnership in 1937 and converted in 1951 into a private limited liability company. The senior partner, his wife and two daughters held approximately two thirds of the voting capital distributed in fairly equal proportions and the other partner held the remaining one third. Sometime before the visit was made the senior partner had retired and his colleague had assumed the role of Managing Director . There had been no change in financial ownership of the company because of this withdrawal and the retired member still retained a personal interest in its affairs through contact with his daughter who acted as the present Managing Director's secretary.

At the time of the visit the company employed 17 people including one general foreman. The Managing Director made the point that at one time the firm had employed 25 people but trade had gradually declined and the numbers had been reduced. Turnover in the last financial year had been approximately £34,000 of which 10/15% was subcontracted.

The original objective of the two partners in starting the business in 1937 was "to have our own business, and be our own boss". Current objectives were to achieve a turnover of £34,000 plus (a little more than last year) and a profit of 20% on turnover after tax. It would seem that the hoped for increase in turnover was not a large one since, it was said, the company had very little space for expansion. Another reason given why additional work could not be undertaken was that the physical proximity of the carpentry shop and the screen printing process made very fine screen printing work impossible; the dust in the atmosphere interfered with the quality of the screen printing. In addition to the various forms of silk screen printing the firm also produced shop fittings, exhibition stands, and point of sale display items. Only 50% of the orders received were obtained as the result of quotations made, the remaining 50% arrived without such preliminaries from "satisfied customers".

Price policy was officially full cost + 20% and was not related to the utilisation of capacity or to the state of the market. The specimen invoice included below confirms this margin but deviates from the profit objective specified above by the amount of profit involved.

The costing/pricing technique used was said to be that recommended by the Display Producers and Screen Printers Association early in the 1950's. Apparently a sample costing had been made which had proved satisfactory and so the system was adopted and had been used ever since. The Managing Director himself made a personal check occasionally to verify its

accuracy. There did however seem to be some confusion about the % added to labour costs to cover overheads. The secretary seemed to think it was 100% and the Managing Director protested that it was 60%, so the specimen invoice was corrected accordingly! The specimen invoice also reveals a profit of 20% which is extended as 25%, but in neither case would the profit result in "20% on turnover after tax".

Information about competitors' prices was obtained from customers and from work sub-contracted and was of some interest to the Managing Director despite his previous comments about his own quotations not being related to the market. Here again delivery and quality were given priority over price when assessing the factors influencing the customer. An increase of 5%, it was thought, would have little influence on sales; an increase of 10% would have some effect, and a rise of 15% would lose them some large orders. A fall in price would not have much effect because "there wasn't enough capacity to handle the increase anyway". Large repeat orders enabled the company to offer reduced prices because labour costs fell as the men became used to producing that particular product.

Summary

There were no written objectives and policies in this company but since most of the financial administration was carried out by the Managing Director or his secretary this was not remarkable. The objectives were fairly precise even if the consequences appeared to be a little confused. Price policy was also quite specific although it was not possible to check on the implementation. The costing system used was rather subjective and a little out of date. An allocation of 60% on labour costs may have been appropriate in the early 1950's but is considerably less than that applied by many firms in the industry.

The Managing Director did not think the market for his products was a very competitive one. Quality and delivery were seen to be more important than price and the company concentrated its attention on the 'approved' competitive devices in order to retain its cordial relationships with customers, suppliers, and competitors.

Periodic orders for a number of large physical units created some storage problems for the company but the rest of the time there appeared to be a significant amount of unused capacity. This seems to be a typical problem for firms in the display industry which no one has yet been able to solve. Diversification appears either to be unpalatable, impossible, or just too difficult.

FFICE SPECIMEN ONLY Job No. 1000 158

Date May 25th 1967

ustomer MESSRS.JONES & CO.

rder No. 3617 Req'd by

b

1 PEG BOARD PANEL - PAINTED BLUE ON WHITE

pecial Purchases						
rder No	Qty.	Designation	Rate	£	s.	d.
		Peg Board used by Carpenters			14	4
		Cellulose used in Spray Shop			5	0
					19	4
		Plus 10%			2	0
				1	1	4
aterials						
ecial Purchases						
bour	Carpenters: 3 hrs. 1. 6. 0 Middle Shop 3 hrs 1. 2. 1 2. 8. 1 Plus 60% 1. 8. 0			3	16	1
		20% Plussage (25% ?)			19	5
dvice Note No.		Invoiced		5	16	10

Company D_6

Until 1953 the General Manager of D_6 was employed as a skilled screen printer with one of the larger firms in the Birmingham area. By that time he was very much aware of the rapid increase in demand for screen printed products which accompanied the post war boom and thus decided to establish his own business. His objective at that time was simply "to emploit the growing market myself", and this he succeeded in doing for the next few years.

In 1960, for reasons which were not revealed, the company was taken over by a larger organisation with branches in many provincial towns and a head office in London. The original proprietor was then made General Manager of D_6 and "left to get on with it" despite the fact that it was then a wholly owned subsidiary. The parent company employs a total of 120 people of whom 20 are at D_6 in Birmingham. Turnover figures for the entire group were not available but in 1967 the total sales for D_6 were approximately £63,000, and, it was stated, were increasing at the rate of 5% per annum. About 10% of this turnover was work subcontracted to other specialist firms, e.g. metalwork.

The figures quoted for 1967 were as follows:

	£
Cost of Labour	17,440
Materials	8,430
Overheads	25,000
Subcontracted work	6,000
Profit	6,000
	£62,870

The firm's output consisted of posters, point-of-sale items, and some photography. The General Manager explained that 90% of the company's effort went into posters to obtain only 15% of the profit. Point-of-sale work produced almost 85% of the profit for only 10% of the effort. Unfortunately most of the poster work was obtained from, or through, the parent company and had to be given priority in the production department.

Most of the orders obtained were quoted for, and once again there was clear evidence of a marked seasonal fluctuation in demand. A considerable amount of display work was associated with local retailing events and in particular with the sale of 'school' items. Thus the peak of demand came in September when parents were preparing children for the return to school. Work of this nature had to be planned in advance and customers were visited well beforehand to discuss their requirements.

The objectives of the firm were still set by the General Manager but now were 'vetted' by the parent company. Although the turnover in 1967 had been £63,000, the objective set for 1968 was given as £60,000 with a net profit of 10% on turnover.

There were three people involved in the pricing/estimating process in this company, the Production Manager for the smaller jobs, the Chief Designer for the medium sized jobs, and the General Manager who estimated the larger jobs and checked all quotations before forwarding them to London for approval. The company's formal price policy was to add a fixed proportion to total cost. This was calculated in the following way.

Labour costs	+ 200%	
Material costs	+ 50%	
Subcontracted work	+ 10%	(occasionally up to + 50%)
Selling costs	+ $\frac{1}{9}$	
Total	+ 10%	(profit margin)

All work done for advertising agencies carried a 10% discount which was corrected for by adding $\frac{1}{9}$ (one ninth) to the final estimated figure before invoicing.

A specimen copy of the form used by the company in the estimating process is appended below.

There was an element of subjective judgment in the General Manager's final check which often resulted in special items being charged higher prices than normal. The General Manager also revealed that some quotations were compared with thosof D_{11}, his biggest competitor, before the final decision was made. Significant changes in labour and material costs were passed on to the customers who were warned of the resulting price changes. In reply to a question concerning factors of importance to the customer the General Manager said that he though quality and delivery were of greater importance than price. From his own company's point of view the price had to be competitive although there were special orders which could be charged on a different basis.

It was rather unusual to find a firm of this size in the industry with two full-time sales representatives and one trainee salesman. To assist this marketing effort D_6 was directed by the parent company to spend £400 per annum on advertising. This the General Manager did but he was not persuaded that the result was worth the effort.

Summary

The original objective of this company was fairly clear and comprehensible.Current objectives were still precise even though ownership had been divorced from the day to day management but there appeared to be less personal concern for the dynamic growth of the company than in other similar units in the industry.

The market for the firm's major products was seen to be competitive in an oligopolistic sense with two main competitors and a number of smaller and rather insignificant ones. Comparing their quotations with one of the larger (and successful) competitors placed the firm on a reasonably sound financial basis. This was further supported by a knowledge that even if the prices were rather high the parent company provided some orders to help fill capacity.

There appeared to be less deviations from the pricing formula than in other organisations which suggests a lower level of personal involvement in profit maximisation and a desire to exhibit some competence in working within the objectives and policies approved by the parent company.

Estimate No................ Client..

Branch .... Job

Date ....

	Craftsman	Apprentice	(Gross Rates) £ s. d.
Artist	@	@	
Writer	@	@	
Spray	@	@	
Stencil	@	@	
Screen	@	@	
Carpenter	@	@	
Labourer	@	@	
	@	@	
	@	@	
	@	@	
Packer	@	@	

Total time	
Materials at cost	
+ 50% uplift	
Subcontract	
+ 10 % uplift	
Production total	£
Selling costs add 1/9th	£
10% Agency Discount add 1/9th	
Total	£
Quoted Price	£
Terms	

Materials at Cost	£ s. d.
Total	

Subcontract	
Total	

Company D_7

This company was first established as a partnership by the present Managing Director and a colleague soon after 1946. The M.D. provided a knowledge of art and design layout and his colleague the skilled craftsmanship in woodworking. The company was later turned into a private limited company but the second partner had recently left the company and is now in business on his own account.

The total issued voting capital of the company consisted of 6000 shares of £1 each, of which the Managing Director held 34% and his wife held a further 17%, making 51% in all. The only other director in the company owned the remaining 49%.

At the time of the visit the firm employed 34 people and had an estimated turnover of approximately £65,000 per annum. Sales were made up of exhibition stands and displays, screen printing, shop fittings, and signs. Many of these items were quite large when assembled for despatch and the firm had found it difficult to provide sufficient storage space. Because of this the Managing Director had recently taken advantage of an opportunity which had arisen to increase the total floor area from 9000 square feet to 12000 square feet. This was a fortunate coincidence but brought in its wake a slightly more difficult problem, that of obtaining the right kind of skilled labour necessary to cope with the orders on hand.

The proprietor's objective when he first started the business was "To start on my own. To be my own boss". Current objectives were to achieve a turnover of £65,000 and a profit margin of 25% on turnover, before tax.

In the discussion on pricing policy the Managing Director referred to the technique recommended by the D.P.S. P.A. and said how helpful it had been. However his own policy was to work on a cost +25% basis for all 'normal' work but to increase the profit margin, sometimes to 50%, when the opportunity offered itself.

The costing procedure was carried out by the Managing Director's secretary using the timesheets (specimen below) completed in the factory. For some time the firm had been losing money because of a tendency to underestimate, or under-book, the time required to complete a particular job. This had now been corrected by adding 25% to the labour time shown on the work sheet. The calculation thus appeared as follows

The calculation thus appeared as follows:–

Labour (hrs + 25% x rate

+ 50% (for holidays etc) ____________________

Total labour cost

+ 20% overheads

Material cost + 10% ____________________

Total product cost

+ 25% profit margin ____________________

Invoice Price

____

N.B. Overtime working was dealt with by increasing the time worked by the appropriate amount and then applying the standard formula.

Information about prices was obtained from customers and from other members of the Association. The market was seen to be competitive though a great deal of emphasis was put upon quality and getting the goods to the customer on time. Price was rather less important but again compared with that charged by D_{11}.

Summary

The proprietor of this firm was rather more reluctant to provide information about his activities than some of the other firms visited. Thus it was not possible to examine the costing and invoicing process to check the proportion of items which deviated from the norm, having been told that there were some.

Company objectives were quite specific and a monthly financial statement enabled the Managing Director to achieve some measure of control over his activities.

This was a typical example of a firm operating in a small group with a differentiated product using the 'approved' methods of competition and being relatively successful for a while. Information obtained from the file at Companies House reveals that turnover in the financial year ending September 1968 had dropped to £50,000 with a net profit, before tax, of £1500 or 2.6% on turnover.

Address	Wanted
Daily Hours Including Over-Time As Paid	Final Check

Operator	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total	Rate	Cost

Transport & Carriage	

Material & Outwork	Cost

Petty Cash Items	

Description Of Job

Office Use Only	Labour	Material	Trans.
TOTAL			

Company D_8.

This is an unlimited liability partnership which was first registered by the present senior partner in 1934. The firm was closed during the war years but recommenced trading in 1946. In 1947 two senior employees were taken in as partners with the original proprietor and the partnership was formed. At the time of the interview in March 1969 there were 38 employees. Turnover figures for recent years and an estimated total for the last financial year are given below.

Year ending February 1964	£41,576	
" " " 1965	£54,693	
" " " 1966	£64,247	
" " " 1967	£67,971	
" " " 1968	£72,195	
" " " 1969	£77,060	(estimated)

The total issued share capital of the company is £30,000.

The company manufactures perspex and illuminated signs, industrial fabricated items involving silk screen work, and provides a range of signs which are hired out to Estate Agents.

The long term objective of the company is implied in the following statement.

> "We now feel that we are limited by our present workshops and can only make further advancement by more economical use of space in a modern building".

To this end the firm is now having a modern building constructed and anticipates that the past rate of growth will continue. Short-term financial objectives were fairly precise, a turnover of £80,000 and a profit margin of 10% on turnover. In this case financial objectives were incorporated in the budget which was seen by all the partners, otherwise there was no written statement of objectives or policies.

The stated price policy of the company was to charge what the market would bear. The actual pricing process was carried out by the senior partner on the basis of information obtained from his contact with customers, the amount of work on hand, and an estimate of total costs plus a 'normal' profit margin. This latter calculation was based upon the budget figures prepared annually in advance, and a monthly check of actual against forecasted quantities. The calculation for the year 1968/9 was as follows.

Company D_8

Productive Hours 1968/69

Signs Dept.		
16 x 40 x 48	30720	32160
1 x 30 x 48	1440	
Display Dept.		
8 x 40 x 48	15360	
1 x 30 x 48	1440	16800
Estates Dept.		
4 x 40 x 48		7680
	Total Productive Hours (est.)	56640

Company D_5

Overhead Expenses Budget – 1968/69

DIRECT OVERHEADS	£	£	1/13 (1)/(N)
*Motor Vehicles expenses	4,000		308
*Motor Vehicles depreciation	600	4,600	46
GENERAL OVERHEADS			
Rent, rates and water	520		40
Heat, light, power	620		48
Repairs to plant	150		12
Repairs to buildings	150		12
Canteen	300		23
Car allowances and travelling	750		58
Printing, stationery, postages & telephones	600		46
Insurances	450		35
Advertising	350		27
Bank charges	100		8
Professional fees	100		8
Cleaning	150		12
Discounts allowed	350		27
H.P. Interest	180		14
General depreciation (other than vehicles)	200		15
Bad Debts	50		4
Brushes, tools etc.	500		38
Sundry expenses	800		62
Pension scheme	300		23
Office salaries	2,300		177
Partners' salaries	4,000		308
National Insurance	1,500		115
Holiday and sick pay	1,000		77
Graduated pensions	480		37
S.E.T.	–	15,900	
		20,500	1,580

*ALLOCATED	£	£
Signs Dept.	2000	400
Display	200	–
Estates	1000	200
Office (Gen. Overheads)	800	–
	4000	600

Company D_8

Overhead Expenses Budget – 1968/69

		Total	Signs	Display	Estates	Office (Gen. O/Heads)
PRODUCTIVE HOURS						
Per annum		56640	32160	16800	7680	–
DIRECT OVERHEADS						
Motor Vehicle expenses						
and depreciation	£	4600	2400	200	1200	800
Per productive hour			1–6	3	3–2	
GENERAL OVERHEADS						
Per detailed list	£	15900				
ADD Office motor vehicles	£	800				
		16700				
Per productive hour			5–11	5–11	5–11	
TOTAL OVERHEADS PER						
PRODUCTIVE HOUR		7–3	7–5	6–2	9–1	
BUDGETED PROFIT	£	8000				
Per productive hour		2–10	2–10	2–10	2–10	
TOTAL RATE PER HOUR		10–1	10–3	910	11–11	

An examination of prices quoted for work carried out in the month immediately preceding the visit showed deviations from the 'calculated' price ranging from +56% to –18%. The +56% was stated to be the upper limit deviation but the –18% was not necessarily the lower limit. This comment concerning the lower limit was explained by reference to the fact that it was often difficult to load the appropriate overhead costs and profit margin per hour on to a job which had been carried out mainly by apprentices. Thus some reduction was seen to be necessary.

The senior partner was also concerned about the inability of his existing system to deal with the problem of interdepartmental transfer of jobs. An increasing proportion of orders

required work to be carried out in more than one department of the company. When this happened the last department involved was credited with the entire turnover figure despite the fact that it may have contributed least to the total value of the work involved. This meant that the other departments concerned appeared to show a lower turnover per productive hour than was actually the case. There was also the problem of determining the correct number of productive hours upon which to calculate the cost.

In answer to the question concerning the main factors which the company felt influenced the customer, 'quality' was given first priority with service, delivery, and price following in that order. The rather low priority given to price was explained by reference to an experience the company had suffered during the past year. Some time previously the firm had reduced prices considerably because the economic situation was bad and trade had fallen. However, this had resulted in an inflow of work which the firm had found difficult to handle. The conclusion which was drawn from this was that it was wrong to drop prices in this way and they "would not do it again".

The market was thus seen to be inelastic and expanding. Profit was in excess of that forecast and the company was growing rapidly. Naturally this was generating problems of liquidity particularly now that the company was undertaking a capital investment programme to provide new accommodation.

Summary

This is another company where the long term and short term objectives are fairly clear. Price policy is to charge what the market will bear and the evidence available suggests that every attempt is made to carry this out. The market is seen to be inelastic and growing rapidly enough to obviate the need to worry about competitors. Nevertheless the executives are very much concerned with preserving the high quality of output and developing new products with modern materials to maintain their present position.

Company D_9

This company was first established in 1934 by the present Managing Director who held approximately 51% of the voting shares. The remaining 49% was distributed between seven people none of whom held more than 25% of the total. Financial ownership and management control was thus vested in the same person.

Originally the firms output included small standard printed and screen printed items for a wide range of customers in the laundry, dry cleaning, and engineering industries. The company was relatively successful until 1939 but then, for fairly obvious reasons, the demand for such items fell sharply and activities were suspended for the duration of hostilities.

At the end of the war the firm recommenced operations producing the same kind of items as it had done previously. It soon became obvious, however, that some rationalization was necessary and the Managing Director decided, "rightly or wrongly", to concentrate attention upon the provision of garment labels, tickets, and other items for the laundry and dry cleaning industry. Initially this had proved successful but the company had made a loss on the past three years trading activities. The firm now employs 50 people, of whom 10 are female, and has a turnover of approximately £200,000 per annum.

The market for the main product line appears to be a very competitive one and it is felt that the only real avenue for expansion lies in the export market. Since the firm has no immediate plans for developments of this kind the main long-term objectives were associated with stability and continuity. Short-term objectives for the current year include a return of 15% net (before tax) on total costs. Total costs for 1969 have been estimated at £170,600 making a target turnover figure of £195,500.

The budget of costs for the current year is made up as follows.

	£
Factored goods	40,000
Direct materials	40,000
Outwork	7,000
Productive wages	22,400
Expenses	61,200
	170,600

The Expenses item includes interest charges and depreciation and is distributed over the other items in the table in the following way.

Budgeted expenses		£	Budgeted turnover at cost
–	Factored goods	46,000	
7,640	Expenses	7,640	47,640
–	Productive wages	22,400	
21,600	Direct expenses	21,600	
13,090	Indirect expenses	13,090	57,090
–	Direct materials	40,000	
4,000	Value expenses	4,000	
5,450	Weight expenses	5,450	49,450
–	Outwork	7,000	
700	Expenses	700	7,700
7,770	Order expenses	7,770	7,770
950	Other expenses	950	950
61,200			170,600

Hourly cost rates to cover budgeted weekly costs varied between 50/- for the highly skilled operatives and 16/- for both men and women on small machines and benchwork.

Outwork expenses were calculated at 10% of the invoice (received) price.

Direct material costs were increased by 10% to cover general expenses and then by a further xd per lb on the weight of material used.

The cost of processing each order was assessed at a flat rate of 20/- in order to compensate for the low level of profit otherwise obtained on the very small orders.

Neither company objectives nor company policies appeared in written form but the Managing Director indicated that all the relevant members of the management hierarchy were aware of these. When questioned about price policy a formal statement was made that "where possible the company adjusted the price to what the traffic would stand, which also involves some consideration of competitors' prices". A price list was issued to customers to cover small orders of standard items and an 'estimator' was able to deal with such items using permitted bulk discounts where appropriate. Medium sized orders incorporating some non-standard items were priced by the Commercial Manager who was able to use his discretion on margins, bearing in mind the overall profit objective. Large orders were brought to the attention of the Managing Director

who, in consultation with the Commercial Manager, decided what price to quote. It was interesting to find that in one recent month the profit margins obtained on orders had ranged from +3% to +50% on total cost. There was no significant correlation between the size of the order and the profit margin. The Managing Director stated that the profit margin rarely exceeded +50% on total cost for the job. Nevertheless there was a clear indication that the Managing Director felt that prices should reflect what the market would bear and attempted to operate on that basis.

Information on price sensitivity came either from the sales force or from the customers themselves. In the first case salesmen provided information about competitors' prices and obtained comparable price lists whenever possible. Customers themselves provided some basis for comparison by complaints about price levels and comments about offers from alternative sources. A certain amount of work was subcontracted, or 'factored', but the prices quoted by suppliers for this work were not considered to be comparable with the company's own prices. From information submitted in the past the company was aware that there was one particular competitor who consistently quoted prices of similar product lines at 1/- per item below D_9. This had caused some irritation but the Managing Director had so far refused to indulge in the typical oligopolistic price war situation. The decision not to cut prices was based upon a belief that customers were concerned with quality, availability, and price in precisely that order of priority. Thus, even though a difference of 1/- on the smaller standard items was not an insignificant amount, the company felt it was able to counter the price attraction by better quality and immediate availability.

The company operated a fairly straightforward costing system which provided the Managing Director with an estimated total cost for each order fulfilled. The Commercial Department raised one set of documents immediately an order was received. One copy of this set was attached to the outside of the work docket envelope,a second copy was filed in the office, and the third copy was sent out to the sales representative concerned. Information from Daily Work Dockets and Material Requisitions, received from the factory was entered upon the file copy until the order was completed. The completed data was then transferred to the Sales Day Book and from there to the customer's invoice.

Summary

The basic objective of this company was clearly long-term and economic. The rationalized objectives included a specified (%) percentage on total costs related in general terms to what the market would stand and implemented formally through a price list and through individual calculation of prices on large orders or non-standard items.

A forward budget was based upon estimated total costs at a forecasted turnover level. Interest, depreciation and other overhead expenses were allocated to specific activities and included in costs assessed for individual jobs. The costing system was thus designed to provide an estimate of total costs per job which served as a floor below which individual quotations should not fall, and the profit margins referred to above represent the difference between the price charged and total cost calculated in this way. This was a new system introduced during the current year, on the advice of an outside consultant, in an attempt to redress the unfavourable financial results of recent years. The results have yet to be assessed.

Company D_{10}

D_{10} was a private limited liability company registered in 1958. The share capital was made up of 10,000 Preference Shares of £1 each and 4350 Ordinary voting shares of the same demonination. These latter shares were distributed among four people, three of whom each held 1200 units. One of the individuals with the larger number of voting shares was the Managing Director, another was the Company Secretary, and the third the Buyer. In this company the Managing Director was also responsible for the sales function, although his own training and experience was as an estimator.

At the time of the visit early in 1969 the company employed "between 45 and 50 people" and had a turnover of £200,000 'plus' in the last financial year. Output consisted of stationery, advertising brochures, point of sale displays, and direct mail 'shots'. Very little creative work was done within the firm and the Managing Director indicated that the customers normally supplied the ideas which the firm then implemented. The preparation of card work within point of sale orders was one of those items subcontracted by the company. In an average year this subcontracted element amounted to between 5% and 7½% of turnover.

The original objective of the company was not stated but current objectives were to increase the number of employees from 45/50 to 75 in three years, to increase turnover by 25/30% per annum and to achieve a profit margin of 25% on turnover. These objectives were quite explicit but were not issued in written form within the company. Policies were rather less precise and again were not written.

Price policy was stated to be a compromise between being competitive and charging what the market would bear. The pricing decision taken was determined by the amount of knowledge of the situation available and related to the estimated cost of the job. The profit margin applied to estimated total cost ranged from 0% to 100% but was expected to average 33.1/3% before tax, or 25% on turnover. Approximately 85% of the orders received were on the basis of quotations made, the remaining 15% were received without an estimate being given to the customer.

The costing basis used for pricing was a modification of that recommended by the Federation of Master Printers. The general framework of this process is as follows:

Budgeted expenses for the ensuing year are estimated under the following headings.

Premises

Capital – interest and depreciation

Power

Labour costs (indirect)

Maintenance

Transport

Administration (including Advertising)

The Budgeted expenses are next divided into categories which may subsequently be attached to the various cost centres. These categories comprise:

Subcontracting;

factory expenses – direct,

indirect,

material value,

material weight,

outwork,

standing type,

order expenses;

idle facilities.

The final calculation of Budgeted turnover at cost is thus comprised as follows.

Subcontracted goods

Expenses

Productive wages)these are combined to provide an

Direct expeneses)'hourly cost recovery rate' based on the estimated effective hours of operation.

Indirect expenses

Direct materials

Material weight expenses

Material value expenses

Outwork

Expenses

Standing type expenses

Pricing policy is formulated by the Managing Director and most pricing decisions are taken at the same level. In some cases, however, the salesman in the London area may amend the price quoted by the Managing Director on orders up to £400 in value. This does not apply to the two salesmen employed in the Birmingham area but may be permitted of the salesmen soon starting in the Liverpool area.

Information about prices is normally obtained from customers via the salesmen. The Managing Director felt that customers were more interested in quality and delivery than they were in prices. Thus his own criteria for the determination of prices were market opportunity, competition, the amount of work on hand, and finally costs in that order of priority.

The most significant factors which the Managing Director felt would increase profitability were turnover and process innovation; and the way to increase turnover was to increase the sales force, (which he had just done).

Summary

This was a young first generation firm with fairly clear objectives involving growth and profitability. There was an awareness of the lack of creative artistic ability within the company but there appeared to be no desire to change this situation so long as the requisite talents were provided by the customer.

Price policy was related to the amount of knowledge available and the range of profit margins indicated showed the company's adherence to its stated policy. The market was seen to be competitive but the Managing Director believed that the company could provide the quality and delivery which would enable it to expand during the next few years.

Company D_{11}

This is one of the larger companies concerned exclusively with display and screen printing work in the Midlands area. The company was registered in 1952 by the present joint Managing Directors one of whom provided the artistic/design skill and the other the commercial knowledge. Majority ownership is still divided equally between these two individuals although there are other shareholders who hold approximately 30% of the total issued voting capital of the company. The total issued capital is made up of 31,510 shares of £1 each but the Balance Sheets also reveals a loan of £37,000 from ICFC. At the time of the survey the company employed 98 people and had an annual turnover of approximately £250,000.

There were no written statements of objectives or policies in this company and initially the Managing Directors professed not to have any objectives. In the subsequent discussion, however, it became obvious that the company was concerned with growth in the long term and the ICFC loan had been obtained to cover the capital costs of increasing capacity. The short-term financial objective was stated as +15% profit on total costs and this figure was incorporated in the standard costing and estimating procedure. Other objectives included a desire to increase turnover in order to utilise the existing capacity more fully and thus to reduce costs; and also to make better use of existing labour resources.

The costing system originally installed, and used until about one year prior to the survey, was that recommended by the Display Producers and Screen Printers Association in 1952. It was suggested that members should allocate overheads entirely to the labour costs involved and should add a %, say 10%, for material handling and subcontracted work. One such formula suggested was as follows.

Labour cost + 100% (for overheads)
Material cost + 10% (handling charge)
Subcontracted work + 10% (handling charge)
} + 50% = Price quoted

In the early days of the company financial statements were produced quarterly, but late, and were of very little help in providing an up-to-date picture of the operating position for the chief executives. The new system is rather more elaborate and provides a prompt monthly statement of the financial position which has proved extremely useful. Overheads are still allocated entirely through labour costs although there is some differentiation of weighting between departments as the following table indicates.

Department	Overheads as a % of labour cost
Screen	+ 250
Art	+ 195
Transport	+ 170
Carpentry	+ 242
Spray	+ 207
Assembly	+ 220
Design	N.A.
Electric	N.A.

This resulted in a recovery of overheads as a percentage of labour of between 195% and 230% on the eight typical orders illustrated below.

		Order 1 £	2 £	3 £	4 £
a)	Material cost	147 2 3	3 0 3	2 7 11	121 15 7
b)	10% handling charge	14 14 3	6 0	4 9	12 3 7
c)	+ 15% profit on a)	22 1 4	9 0	7 2	18 5 4
d)	Total material cost	183 17 10	3 15 3	2 19 10	152 4 6
e)	Subcontracted	6 4 6	–	–	–
f)	+ 15% profit	18 8	–	–	–
g)	Labour + o/heads + profits	493 3 10	16 2 5	27 8 1	107 17 3
h)	Total	684 4 10	19 17 8	30 7 11	260 1 9
i)	7½% Discount added				19 10 2
k)	Gross	684 4 10	19 17 8	30 7 11	279 11 11
l)	Price charged	694 10 0	24 10 11	31 7 11	266 13 4
m)	– 5% Discount				13 6 8
n)	Net revenue	694 10 0	24 10 11	31 7 11	253 6 8
o)	Deviation from estimated Total h)	+ 1.5%	+ 23.5%	+ 3.3%	– 2.6%
p)	Overhead recovery as a percentage of labour cost for the order	+ 220%	+ 200%	+ 213%	+ 230%

		Order 5 £	Order 6 £	Order 7 £	Order 8 £
a)	Material cost	9 3	16 13 2	2 5 9	1 1 8
b)	10% handling charge	11	1 13 4	4 7	2 2
c)	+ 15% profit on a)	1 5	2 10 0	6 11	3 2
d)	Total material cost	11 7	20 16 6	2 17 3	1 7 0
e)	Subcontracted	–	–	–	11 0 0
f)	+ 15% profit	–	–	–	1 13 0
g)	Labour + o/heads + profit	11 6 3	65 9 7	19 8 2	14 4 6
h)	Total	11 17 10	86 6 1	22 5 5	28 4 6
i)	7½% discount added	17 10	6 9 6	1 13 5	2 2 4
k)	Gross	12 15 8	92 15 6	23 18 10	30 6 10
l)	Price charged	14 16 1	97 8 3	25 18 10	30 6 10
m)	– 5% discount	14 10	4 17 5	1 5 11	1 10 4
n)	Net revenue	14 1 3	92 10 10	24 12 11	28 16 6
o)	Deviation from estimated Total h)	+ 18.3%	+ 7.2%	+ 10.7%	+2.2%
p)	Overhead recovery as a percentage of labour cost for the order	+ 196%	+ 219%	+ 223%	+ 211%

Specimen copies of some of the relevant quotation forms are included at the end of this section.

Price Policy

The formal price policy for the firm was reflected in the costing system which adds a fixed percentage for profit on to total costs. Where a special discount of 5% is offered to customers for payment of cash within 7 days from the date of invoice an additional 7½% is added to the final figure to compensate for this. Thus it would appear that those firms who take advantage of this offer actually pay 2% (approx.) more for the order than they would normally have done.

While most orders were obtained as a result of quotations made, a fairly high proportion were received without the customer having such an estimate. In some cases, of course, the customer specified the total amount of money available and requested the display producer to 'do his best' within these limits. However, the number of orders/enquiries received was still sufficiently small for one of the Managing Directors to review the cost calculation before the invoice/quotation was

made out. From the illustrations provided it seems that some adjustment was made to 'prices' provided by the system although it was stated that this does not always occur.

The directors explained that these price adjustments were made mainly to match competitors' prices but also, occasionally, to take advantage of an abnormal market situation. Competition was intense at times when the industry was going through a slack period. On one particular enquiry the company's quotation of £875 had met competitive quotes of £640 and £470.

Price competition is not normally as intense as this and is more than offset by quality and creative design work. There is, however, a certain amount of excess capacity in the industry which could have resulted in price competition had it not been for the relatively subordinate role that prices play in the marketing mix and the work done by the Display Producers and Screen Printers Association in recommending a uniform costing structure to its members. The subordinate role for pricing was emphasised by one of the Managing Directors who stated that prices would have to rise by at least 10% before there would be any marked falling off in orders and that a similar drop in price would be unlikely to stimulate a greater demand. This represents a relatively inelastic, but kinked, demand curve which is quite different from that encountered by D. C. Hague above.

Information on price sensitivity was obtained from three main sources. In the past there had been many occasions when the firm had been obliged to subcontract some part of the work it had undertaken. This still occurred from time to time for special items and provided information about the prices quoted by such firms. Salesmen also gleaned information about competitors' prices from their discussions with customers and reported items of interest back to the form. The third source was the customer himself, who frequently commented upon range of quotations received or complained about the firm's estimate. There were also occasions when information about the customer's own budget was contained in printing work undertaken by the display producer and thus provided useful background information against which to quote.

Summary

The basic objective and the rationalised objectives of the company seemed fairly clear. In the long term the firm was concerned with growth and in the short term with a 'normal' return of 15% on total cost. This was, to some extent, misleading. One Managing Director did say, during the interview, that "obviously you try to make as much as much as you can" which suggests that

the adjustments made to the calculated price was much more indicative of the real objective than that displayed in the percentrage arithmetic. The point was made previously that it is not always possible to determine real objectives even when explicit statements are made. It is possible, however, by linking casual statements of the kind made above with evidence of decision making to obtain a reasonably accurate impression of the motivational basis of behaviour.

QUOTATION SUMMARY

nquiry From ______________________________ per ______________

or ____

____

____

____

milar Jobs ______________________________________

DEPARTMENTAL ESTIMATES

						£	s	d
Arts	...	...	...	...	...			
Prototype	...	...	...	...	...			
Screens	...	...	...	...	...			
Photographic	...	...	...	...	...			
Carpenters	...	...	...	...	...			
Sprayers	...	...	...	...	...			
Electrical	...	...	...	...	...			
Assembly	...	...	...	...	...			
Packing	...	...	...	...	...			
Transport	...	...	...	...	...			

Total per individual sheets £

Plus %

Sub. Con. @ £ Plus %

Quoted £

er received by on ______________ for ______________

allocated number ______________________________

invoiced on ______________________________

it on job over & above quote £

on job costs higher than quote £

A R T DEPARTMENT

QUOTATION

uiry From ______________________________ per ______________________________

____

____

____

____

ilar Jobs ____

L A B O U R

	M	J	@	£	s	d		M	J	@	£	s	d
ervision							Mounting						
ck & White							Packing						
ign							Painting & Varnishing						
strating							Patching up						
rnal Transport							Preparation						
atrace							Writing						
asetting							Clearing up						
te Up							Work necessary in Overtime						
king Out													

MATERIALS

	@	£	s	d

OFFICE USE ONLY

	£	s.	d.
ials			
%			
r			
to Summary			

2

PROTO/ ELECTRICAL DEPT.

QUOTATION.

uiry From ______________________ Per ______________

ilar jobs ______________________

LABOUR.

F	M	J	@	£	s	d

F	M	J	@	£	s	d

MATERIALS

	@	£	s	d

OFFICE USE ONLY

	£	s.	d.
aterials			
%			
bour			
/f. to Summary.			

/QPE.5.

Company D_{12}

This company was first formed in 1954 by the joint Managing Directors and became a private limited liability company in 1959. It was originally set up as an advertising agency based upon the knowledge and experience of one of the Managing Directors in that specific field and on the creative skill of the other Managing Director as a display artist.

As the organisation grew the directors realised that the agency label prevented the firm from exploiting some opportunities which could prove profitable. Consequently the company decided to open a subsidiary company some distance to the south of Birmingham with a different title and which would be concerned with display and point of sale work. At the time of the visit the company employed 18 people at the Birmingham premises and 7 at the subsidiary. Total turnover in the last financial year had been £250,000 of which £40,000 was accounted for by the display unit. Only 50% of this latter work was actually undertaken at the subsidiary factory; the remainder of the work was designed by physical production was subcontracted to outside firms.

The issued capital of the company consists of 2,500 Ordinary voting shares of £1 each and 2,500 Preference shares of £1 each. Each of the Managing Directors held 1.150 Ordinary shares with one other person holding the remainder.

There were no written statements of objectives or policies in this company and the Managing Director, when answering the question about objectives, was rather less precise, and less consistent, than other comparable firms. Long term objectives were stated to be growth and profitability with the emphasis upon for former. Short term objectives were given as "profit, but we don't aim at a particular percentage"; and "to continue to increase turnover at 10-20% per annum".

Price policy was determined by the Managing Directors and the pricing decisions were taken by the same two people so there was little opportunity for discrepancies to arise between the formulation and the implementation of policy. The Managing Director stated that the company's price policy was a combination of charging what the market would bear and using a standard mark up on full cost. The standard mark up was given as 17½% on full cost, or 15% on turnover. This was based upon the knowledge that this was the mark up applied by Young and Rubicon for work undertaken from General Foods and "this seemed to work quite well, so we used that".

Profits were not correlated with this standard margin because the price quoted sometimes deviated from the norm. These deviations were few and "tended to cancel one another". One example of such a deviation was given by the Managing Director interviewed. Apparently he was persuaded that the buyer of a large company for whom they frequently quoted had a personal friend who was also in the display/printing industry. When a request was obtained for a quotation for one large job the Managing Director of D_{12} estimated that this would normally cost about £17,000. As a precaution the quotation was submitted at £18,500. Some time later the buyer referred the quotation back saying that he had had a lower quote from a local company. D_{11} then cut the quotation to £17,700 and still did not secure the order. This, the Managing Director stated, was because the buyer went back once more to his friend who cut the price still further.

Information about competitive prices was obtained from the considerable amount of work which was subcontracted, and from discussions with other managing directors in the industry. Once again D_{11} was quoted as a comparison and was stated to be "expensive but good". There were other firms which were cheaper by 50% but did not offer the same quality product.

The Managing Director felt that the customers were primarily concerned with the service that the company could provide, then with quality and delivery, and lastly with price. From his own point of view he ranked the factors influencing his own pricing decision as costs, competition, and market opportunity in that order. Not all the orders obtained were received after the submission of a quotation. There were many occasions when shortage of time prevented the client from going through the formal process of tendering.

Summary

This firm was an unusual one in that it straddled both the advertising field and the display industry. Objectives were rather indeterminate and there appeared to be little retrospective analysis of the correlation between the margins applied and the profit obtained.

Again price policy was a mixture of the standard mark up in situations of doubt combined with the use of a flexible increment when sufficient knowledge was available.

There was evidence of some oligopolistic type pricing competition but alo of reference to the current standard set by D_{11} who seems to be emerging as a price leader in this industry.

The Prices and Incomes Board was not regarded as relevant to the process of decision making in this company.

Company D_{13}

Company D_{13} was a wholly owned subsidiary of a large engineering company which was concerned mainly with the automobile industry. The subsidiary was established in 1950 with capital from the parent company to produce injection moulding for the trade. foam forms, three dimensional badges and various other types of plastic display items. The firm employed 250 people and had a turnover of £150,000 in the last financial year. Approximately 75% of this turnover arose from injection mouldings and the other 25% was divided equally between foam forms and other items. Only 1% of turnover was subcontracted to other organisations.

Neither objectives nor policies appeared in written form but the Sales Manager stated that this was now one of the major topics under discussion. The 'agreed' objectives of the firm were to "double turnover in five years and to achieve a profit of 10% on turnover before tax".

Pricing policy was determined by the Local Board of Directors and was expressed as "charging what the market will bear". The actual pricing decisions were left to the Sales Manager and the firm's representative with the reminder that the company should make a profit of 10% on its total turnover.

The costing process is illustrated on the Estimated Cost Summary given below. Overheads were allocated on a machine hour basis assuming an 80% machine utilisation for each machine. Administration, selling and distribution costs added a further 10% to Total Works Cost, but large consignments involving special transport were shown separately as an additional cost item. Item 14 identified the trade discount which was added to the Total Factory Cost so that it might be deducted on the customer's invoice. The profit margin was normally between 10% and 25% on Total Factory Cost although on rare occasions (less than 1%) it had been as much as 70%.

No price lists were issued by the company and all orders were obtained after a quotation had been submitted to the customer. Sometimes it was the customer who indicated the amount of money available and asked D_{13} what they could provide within this limit. When a significant change in wages or material costs took place customers were warned of this so that they could adjust their budgets accordingly.

Information about competitors' prices came mostly from the salesmen but the Sales Manager felt that the customer was primarily concerned with quality and delivery, and subsequently with price and service. From his own point of view the factor which had the greatest bearing on the final price was seen to be the amount of work on hand; market opportunity was

second in importance, competition third, and costs were fourth. This order of priority was interesting int hat it reflected the difficulty which the company had had in filling its production capacity during recent years.

Summary

Only about £10,000 of this company's turnover was concerned with display work so that it is difficult to draw a direct comparison between D_{12} and other firms in the display industry.

The objectives, however, were explicit, if a little hopeful, and still unwritten despite the size of the company and its relationship with a much larger organisation.

There was no embarrassment about pricing policy and the Prices and Incomes Board was not considered to be of any relevance or of any interest.

The market was seen to be competitive but the new capital equipment provided the firm with a quality and cost advantage over its competitors which was just beginning to have some effect. Although this applied mainly to the injection moulding field there were side benefits which helped in the production of display items.

ESTIMATED COST SUMMARY

CUSTOMER:

DISTRIBUTION:
SALES (2)
ENGINEERING
COSTS
FILE

ASSEMBLY No.

COST INQUIRY No.

INQUIRY DATE:

ESTIMATE No.

ESTIMATE DATE

QUOTATION DATE:

DESCRIPTION:

	ORIGINAL	REVISIONS		
	1	2	3	4
1. Direct Material				
2. Direct Labour				
3. Overhead				
4. Manufacturing Cost				
5. Manufacturing Scrap % (of 4) up to 10%				
6. Manufacturing Contingency % (of 4) 10%				
7. Total Works Cost				
8. Administration Cost % (of 7) 4½%				
9. Selling Cost % (of 7) 3½%				
10. Distribution Cost % (of 7) 2%				
11. (except transport when large units)				
12.				
13. Total Factory Cost (EACH)				
14. Trade Discount				
15. Net Profit/Loss + 10%				
16. Selling Price (EACH)				
17. TOTAL TOOLING COST £				

REMARKS

Signed ____________________

ESTIMATING DEPARTMENT

ESTIMATED COST

DETAILS (per 100 units)

OPERATIONS	Depart	Mins. per 100		MATERIAL		LABOUR			OVERHEAD		TOOLS	
		Mach.	Lab.	PRICE	PENCE PER 100	GRADE	Min. Rate	PENCE PER 100	Min. Rate	PENCE PER 100	Hrs.	COST

TOOLING

TYPE	DETAILS	COST
LDS		
TOOLS		
TOOLS		
	TOTAL	

Company D_{14}

Like most of the others in the display producing industry this was also a first generation firm. It was first registered in 1954 by two people, an artist who is now the Managing Director, and an advertising agent who directs that side of the business. Until the recent Finance Act the company was an 'exempt private company' but it was still possible to determine the relationship between the legal and managerial control of the firm. Approximately one third of the voting shares were held by the Managing Director and his wife, one third by the Advertising Director and his wife, and the remainder divided among other employees and various outside interests. The total issued voting capital of the company amounted to roughly 34,000 shares of £1 each, against an authorised capital of £40,000.

The company has three establishments, two of which are located south of the Midlands and the other, a small regional office, in the eastern part of the country. At the time of the visit in 1968 the firm employed 110 people and had achieved a turnover of £240,000 in 1967. The estimated production capacity was £300,000 and the firm thus appeared to be operating at 80% of estimated capacity.

Once more company objectives and policies were not available in written form. The basic objective was concerned with long term economic growth but here, more than in any other company visited, there was an explicit ethical philosophy which provided effective constraints within which such growth should be pursued. Rationalised objectives were reviewed each year at the Annual General Meeting. So far as profits were concerned the tendency was to aim for "a fixed sum more than last year". This was based upon a forecast of variable costs and overheads for the ensuing year, a profit of £x, and the volume of sales necessary to achieve this figure. If this figure for turnover appeared reasonable, and was around 80% of production capacity, then the profit figure incorporated was approved. No actual figures for turnover were given for 1968 but overhead costs for the current year were quoted at an estimated 18½% on total production cost.

Price policy in this case was a fairly straightforward cost plus process with a gross margin set at 47½% on total production costs, and a profit margin of 29% after the deduction of overheads. Orders were divided into four main categories A, B, C, and D, each of which had a different margin applied. Since the 47½% was related to total costs and, therefore, represented a turnover of £Y, this turnover had to be adjusted to take account of the lower margins applied on

B, C and D. Thus:

£Y at Total Prod. Cost + 47½% = £Y_1 at Total Prod. Cost + 47½%

+ £Y_2 „ „ „ + 37½%

+ £Y_3 „ „ „ + 25%

+ £Y_4 „ „ „ + 20%

A check was kept on the current position by multiplying the turnover in each category to date by the appropriate factor, adding them together and then comparing the total with the cumulative proportion of £Y, e.g.

$Y_1 + Y_2(.79) + Y_3(.53) + Y_4(.42) = £Y.$

These variations and the types of jobs involved were as follows.

Type of work	Classification	% addition to total prod. costs	Overheads as a % of total prod. costs	Profit margin on total prod. costs. (%)	Profit margin on turnover. (%)
Creative	A	47½	18½	+ 29	20
Less creative (corrugated paper wire wood)	B	37½	18½	+ 19	14
Competitive (reproduction work)	C	25	18½	+ 6½	5
More competitive (routine)	D	20	18½	+ 1½	1.25

There were two other classification of expenses which require special mention. All work subcontracted to the firms associated company was said to be costed separately and a margin of 15% was added to the 'inter' factory cost. Some specialised creative work was also placed with other companies and a margin of 15% was added to the invoice received value to cover 'handling' charges.

The interfactory cost referred to above was calculated on the following basis.

Total production cost + 2½% (material handling cost)
+ 20% profit margin
+ 5% reserve uplift
} + 27½%

This together with the 15% added to the interfactory value gave a total margin of 42.125% to the company on the finished job, which is a profit margin of approximately 31.5% on the selling price.

In fact, some items subcontracted to the associated, and other, companies were included in the normal costing system and the 'appropriate' margin added.

Example

Bought from other companies	831 17 4	
Subcontracted, own company	365 0 0	(includes 42.125%)
	1,196 17 4	
+ 'A' (47½%)	567 0 0	
	1,763 17 4	
Artwork–'special', bought in	230 0 0	
+ 15%	34 0 0	
	£2,027 17 4	
One further item bought in	51 13 4	(no profit margin)
	2,079 10 8	
Carriage	40 0 0	
	£2,119 10 8	

The original enquiry for this order specified 1600 display units and stated that: "The total budget available for the display material supporting the . . . . . . promotion is £2,000 inclusive of all finished charges. This figure must not under any circumstances be exceeded".

The figure quoted to the customer was £2,118. 6. 8 or £1. 6. 5¾ per unit. This was accepted and the work undertaken.

Ignoring the profit imposed by the associated company the profit margin involved may be calculated as follows:

Bought out, other companies	831 17 4
Bought out, own companies	365 0 0
Artwork, special	230 0 0
One further item bought in	51 13 4
Carriage	40 0 0
	£1,518 10 8
Profit	599 16 0
Price	£2,118 6 8

The profit margin was thus approximately 40% on the selling price, considerably higher than the target rate of 20%.

Deviations from the 'cost plus' policy quoted above did occur and the Managing Director gave four reasons why this might happen.

(a) The price may be dropped below the estimate in order to honour a quotation made previously by the salesman.

(b) A price may be quoted below the estimate if the customer is operating on a tight budget.

(c) Prices would be reduced generally if economic conditions were bad and sales were falling.

(d) A price may be quoted above the estimate in order to take advantage of an abnormal situation.

An analysis of the turnover and gross profit (including overheads) for March 1968 provides an interesting insight into deviations from the price policy quoted.

Sales for March were as follows

Class of Order	Invoiced Sales £	% on cost		% on sales		Value £	Value £	% on sales
A	1669	47½	=	32	=	534	432	26
B	11493	37½	=	27½	=	3161	2764	24
C	4126	25	=	20	=	825	786	19
D	1747	20	=	16.2/3	=	291	262	15
	19035			25		4787	4244	22.2

Out of 38 orders invoiced only 3 were 'regular' in the sense that prices agreed with the estimates, 6 were in excess of the appropriate figure and 29 were below it. Of those in excess one margin was quoted at 42% compared with the normal 32%, and another at 54% compared with the normal 20%. In the range of figures below the norm one margin worked out at 18% compared with 32%, the other discrepancies were smaller than this.

These figures exclude the profit margin obtained on work done in the associated company. Since this was approximately 20% of total turnover the final profit margin would be increased by roughly 4% bringing the figure to say 26% for March, slightly above the anticipated figure on sales. This adds about £760 to the £4,244 actual profit making a total of £5,004. This is the figure which would have been obtained at 25% on a turnover of £20,000. March had 1/12

of the working days for the years so that a target of £240,000 for 1968 should have given a turnover of £20,000 for March and £5,000 profit.

Summary

In this case the basic objective was seen to be growth with the philosophical caveats mentioned above. Financial objectives were worked through in some detail and a monthly check was maintained. Price policy was quite explicit and a procedure had been devised but deviations from this pattern were the rule rather than the exception. This was partly because of the non-regular items included in the estimate and partly because the Managing Director 'reviewed' most of the estimates before the quotations were sent out.

The market was seen to be price sensitive when sales were falling, while generally the company felt that ideas, quality and delivery were more important marketing factors. To maintain the flow of new ideas, and therefore to perpetuate the success of the firm the Managing Director had collected a team of ideas men who had effectively removed the burden of creative work from his shoulders. This was an unusually enlightened state of affairs in this industry.

Company S_1

S_1 was a small firm in a rather specialised section of the printing industry included in the survey because it numbered among its customers many of the display firms and screen printers with whom the survey proper is concerned.

The firm was first registered by its present Chairman in 1957 and became a private limited liability company in 1960. It was originally established to provide a type setting service for advertising agencies and display companies because many had found difficulty persuading the normal type of printing organisation to cater for their rather specialised needs at that time.

In this particular company management titles are a little misleading since the Chairman is still effectively the chief executive. Until quite recently this person was also Managing Director but was obliged, during a short absence from the firm because of ill health, to designate his next in command as Managing Director. Although the Chairman is now recovered and back at work he has not resumed his former title but has undertaken many of his former functions.

The issued capital of the company comprises 7,500 voting ordinary shares of £1, 48% of which are held by the Chairman, 43% by his wife, approximately 3% by the Managing Director, and a further 2½% by a non-working director. The voting control of the firm thus rests with the Chairman and his wife.

At the time of the survey the company employed 35 people and had a turnover of approximately £60,000 in the last financial year. Output consisted mainly of typesetting but also included some photographic work and the production of lithographic plates.

When the company was first formed the basic objective of the founder was "to become my own boss". There was also a desire to exploit a market opportunity which was becoming more and more obvious. In its early years the firm grew quite rapidly and turnover increased by approximately 20% per annum until, in 1964, it reached about £60,000; Since that time turnover has fluctuated somewhat but has never risen significantly above that level.

Current objectives and policies were not available in written form and the Chairman indicated that his objective was to obtain a profit of at least £5,000 on a turnover of £60,000. This represents a return of 25% on capital employed and 66% on equity capital. The Managing Director, however, stated his objectives in terms of the 'normal' profit margin included in prices; this was 33.1/3% on total cost or 25% on turnover. Since 1960 the net profit (before tax) achieved as a percentage of turnover had varied between 2% and 17% with an average of about 8.5%.

Pricing policy was to charge what the market would bear but to use an absorption costing technique to provide a basis from which to operate. The original basis for the present costing procedure was calculated in 1964 and included the following items.

Material costs
+ 10%
Labour costs (based on effective hours)
+ Direct overheads (based on effective hours)
+ Indirect overheads (based on effective hours)

Total production costs
+ 33.1/3% profit
Estimated Price

Since 1964 significant changes in the cost of labour have been incorporated by adding an appropriate percentage to the total production cost shown above. A complete revision of the costing process was under way at the time of the survey but had not been completed in time for inclusion in this report.

Photographic work and Lithographic plates were both fairly standard items which enabled the firm to issue customers with price lists. These prices were, of course, amended from time to time and the customers immediately became aware of this fact when the amended price lists were received. Typesetting, however, was in a different category since each job had different characteristics and required individual costing. In this category the firm published no regular list of prices but made it known to customers that there was a minimum charge per item of £1. Only major customers were warned of impending price changes and, since these usually followed a well publicised wage increase in the printing industry, there seemed to be very little reaction or surprise when this happened.

Whilst most orders for photographic work and lithographic plates were received on the basis of prices quoted, the vast majority of typesetting work was received without quotations being given. An analysis of typesetting items estimated and invoiced on six separate days and attributed to two different individuals is given below.

Table 1.

Date	11/6/69	13/6/69	18/6/69	6/8/68	20/9/68	1/10/68
Number of items priced	23	32	27	29	35	25
Number of items where						
a) formula price = estimated price	0	0	2	0	0	0
b) formula price > estimated price	23	32	22	29	30	17
c) formula price < estimated price	0	0	3	0	1	0
d) net revenue = formula price	0	0	0	1	1	2
e) net revenue > formula price	6	11	9	10	11	9
f) net revenue < formula price	17	21	17	18	23	14
Range of deviations	+15%	+93%	+48%	+22%	+84%	+84%
	-34%	-30%	-40%	-14.1%	-20%	-11%
Net total deviation from formula value	-£4.16.3	+9/1d	+£11.18.0	-£12.17.3	-£6.14.0	-£3.16.0
Total formula value	£154.0.9	£159.1.11	£227.14.0	£246.8.9	£257.16.0	£128.16.9
% diviation	-3.1%	–	+5.2%	-5.2%	-2.6%	-3%

	Estimated by the Managing Director	Estimated by the Production Manager
	Average deviation	Average deviation
	+1.7%	-3.7%
	on turnover	on turnover
Estimated total annual effect £60,000	+£1,020	-£2,220

Part of the discrepancy arising from the Production Manager's calculation was eventually traced to an arithmetical error in the hourly rates used. The formula called for hourly rates of 65/- and 80/- respectively in departments 'A' and 'B' but the Production Manager had misheard the instruction and was charging 60/- and 75/- per hour. This, however, accounted for only 1% on the total figures and left unexplained a variance of −2.7%, approximately one third of the average profit received in recent years.

In order to investigate this phenomenon further the three people who were normally involved in pricing were asked to price the same 20 current orders. These three individuals were the Chairman, the Managing Director, and the Production Manager and the comparable figures are given below.

Table 2.

Order	Chairman £	s	d	M.D. £	s	d	P.D. £	s	d
1	3	0	0	3	10	0	3	9	9
2	7	4	0	7	17	6	7	6	9
3	6	16	0	8	5	0	7	10	9
4	27	0	0	40	0	0	40	1	0
5	3	12	0	6	15	0	6	12	6
6	5	0	0	4	15	0	5	5	6
7	2	19	6	3	10	0	3	16	6
8	17	8	6	18.	10	0	16	18	0
9	2	14	0	4	10	0	4	11	9
10	18	0	0	33	0	0	32	8	0
11	16	11	6	15	2	6	14	15	0
12	8	10	0	7	0	0	6	16	0
13	8	2	0	8	10	0	8	4	3
14	26	2	0	25	15	0	24	3	9
15	6	10	0	7	7	6	7	4	0
16	2	11	0	2	11	0	2	11	0
17	1	5	0	1	10	0	1	7	6
18	1	11	6	2	5	0	2	11	9
19	6	16	0	10	15	0	10	1	9
20	5	8	0	6	10	0	6	9	9
Total	177	1	0	217	18	6	172	5	3

On this occasion the Production Manager's calculations were strictly in accordance with the formula laid down by the Managing Director so there was no deviation at that point. The Chairman's prices showed four items placed above, fifteen below, and one identical with the formula price, but resulting in a net increase of approximately 3% in the total revenue involved. The Managing Directors figures were significantly different in that he placed 14 items above, 5 below, and one identical with the formula price; the net result being a 26½% increase in revenue

The same discrepancy exists here between the Production Manager and the Managing Director as in the earlier illustrations and is symptomatic of the different motivational bases used by the two individuals and the different knowledge that each has of the customer situation. The same comment applies to the difference between the Chairman's prices and those of the Production Manager although in this case the Managing Director appeared to have a greater knowledge of what the customer would be prepared to pay.

There is insufficient data to justify any correlation between the deviations and the size of order concerned but what is obvious is the fact that there is quite a significant difference in the prices set by people at different levels in the management hierarchy and who also had different orientations. Thus although the pricing policy was to charge what the market would bear this was only done effectively when the actual prices decision was done by the Managing Director.

Quite recently the firm had introduced a new technological process by which it was able to offer a similar typesetting service at a lower price that that provided by the comparable traditional process. It was interesting that the price calculation for the new process excluded indirect overheads completely. The result of this was to accentuate the difference between the prices calculated for the 'old' and 'new' process. It was thus possible for the firm to price its 'new' output significantly below previous levels and still make a very good profit. This was more apparent than real and if the indirect overheads had been located in the normal way the profit margin would have been reduced.

Summary

This was another first generation post-war company established by a skilled craftsman who still retained ownership and a great deal of managerial control. Long term objectives were rather nebulous related to growth whereas short term objectives were much more specific and related to profit and turnover. There was a curious lack of synchronisation between the statement of objectives made by the Chairman and that made by the Managing Director.

The 'normal' profit margin used as the basis for pricing decisions bore no resemblance to the final profit margin received but there was little attempt to explain why this discrepancy had occurred, or to analyse the costs in retrospect. No monthly financial statement was prepared and the effect of some cost changes took a long time to become apparent. On one occasion the fact that labour costs for the financial year ending in September were twice those in the previous year did not become noticed until the outside accountant had prepared the accounts and presented them in the following April. The profit margin was extremely small and this naturally caused consternation and immediate action to raise prices.

The market is seen to be competitive but in terms of quality and delivery rather than price. The Chairman indicated that the prices quoted and charged were rather higher than many of his competitors but the firm was able to offset this by providing better quality and rapid delivery.

Information about prices is obtained from customers, from proprietors of competing firms, and from 'trade' representatives who call from time to time.

Again there was evidence that customers themselves frequently constructed monopolistic situations for this firm through bad planning and careless preparation. The jobs were thus classified as urgent and the buyer made it clear that his employer was prepared to meet any 'special' additional costs involved. The cost of working outside normal hours is rather difficult to calculate so a 'liberal' margin was added to make sure these were covered. The net cost to the customer was thus sometimes double the normal rate and represented a severe penalty for what apparently appeared to be gross incompetence.

It was also interesting to note the discrepancy in the pricing arithmetic and in the subjective variance which arose when the pricing decision moved from one level in the management hierarchy to another. A discussion with the two individuals concerned revealed a change in emphasis from profitability by the Managing Director (tempered by the need to keep the orders coming in) to a concern with maintaining the order flow (tempered by the thought that some profit was necessary) by the Production Manager.

Company C_1

This is a large manufacturing organisation in the consumer goods field which employs 20,000 people and has a turnover in excess of £120 million per annum. The firm manufactures a wide variety of products and sells its goods in the home and export markets. Both markets are, however, highly competitive and all the major participants, including this company, employ fairly sophisticated marketing techniques.

The organisation structure of C_1 is divided on a product group basis with each product group having its own Marketing Manager. He is assisted in this task by a General Sales Manager, a Merchandising Manager, and a number of Product Managers. There are a number of centralised service departments, one of which is responsible for company advertising. There is also a Display Studio which is concerned with the design and planning of merchandising campaigns. The Studio Manager is responsible to the Advertising Manager although he works closely with the other executives mentioned above, and in particular with the Product Manager conerned.

The Display Studio employs 24 people and has a budget of around £35,000 per annum. This sum includes an estimated expenditure on labour costs of about £26,000, £2,000 for materials, and £900 for the maintenance of buildings, etc. In addition to the design work which the Studio itself carries out, the Studio Manager is responsible for placing orders for display work with outside firms amounting to around £100,000 per annum. It is unusual for a buying department to delegate this amount of responsibility but the nature of the work involved, and the specialist knowledge required to progress the orders, make it justified in this case. During the past ten years advertising expenditure in this company has more than doubled but the Display Studio has not grown in the same way. Quite recently the pressure for work done by the Studio has increased so much than an application has been made for four additional members of staff. The case for growth was based upon the fact that 95% of the basic design work is done inside the company and the marginal cost of such work is approximately 50% of that incurred if outside suppliers are used, that is, the estimated total cost per hour of design work done in the Studio is £2 compared with £4 for outside firms.

The normal procedure involved in launching a merchandising campaign is as follows.

i) The Product Manager initiates the idea of a merchandising campaign for his product, setting out the time schedule desired and the budget available.

ii) The idea is discussed at a meeting of the Marketing Manager, the General Sales Manager, the Merchandising Manager, the Product Manager and the Studio Manager.

iii) The general form the campaign should take is established. Ideas may be drawn from suggestions by suppliers, from the Studio, or from the executives at the meeting.

iv) A requisition is issued by the Product Manager. The cost of the projected campaign is estimated from past experience and is restricted to the budget available.

v) The Studio does the basic design work and prepares the rough visuals for approval by the Product Manager.

vi) After approval the Merchandising Manager invites quotations from suppliers, usually three, for finished work.

vii) The order is subsequently placed with one supplier and is 'progressed' by the Studio Manager or one of his colleagues.

One example of such an enquiry to three regular suppliers brought the following range of quotations, (see documents A to G at the end of this section), £4,793. 3. 4, £598. 19. 2, and £675. 0. 0. In this particular case the differences were quite marked and reflected the low level of demand at that time, but normally quotations are much closer together. Whilst the Merchandising Manager and the Product Manager both indicated that price was not the most significant factor in influencing their decision this order was, in fact, placed with the suppliers quoting the lowest price.

The objectives of the Display Studio were quite different in character from those of an independent organisation. The first objective was to meet the extra, urgent, demands of C_1 with speed and creative quality and to facilitate the task of marketing the company's products. The second objectives was simply to stay within the departmental budget.

The Studio did not cost the work carried out systematically. Special items for Product Managers were occasionally charged to that Manager on the basis of £2 per hour plus material costs, and work which was subcontracted was also easily accounted for and, therefore, chargeable to the Product Manager concerned. This, it appeared, was the limit of the cost/benefit analysis. Thus there was no costing, or pricing, technique which was comparable to that of the independent producer despite the fact that it was a very large company using highly sophisticated management techniques in most other areas of activity.

The factors quoted by the Merchandising and Studio Managers as influencing the buying decision were very similar to those assumed by suppliers. These were:

a) quality, the ability to do a good job;

b) delivery, at least five weeks in advance of the campaign date;

c) security, to preserve secrecy for a new product; and

d) price

Price is important, but where time is short (and this frequently happens) then orders are placed with a supplier who had received a previous order of the same kind. An indication is also given that the firm would not mind paying the additional cost for overtime working!

Summary

The objectives of the Studio were obviously very different from those specified by independent organisations. The basic objectives in this case was a personal one related to continuity of employment and was illuminated by the Studio Manager who expressed concern about the future now that the company was amalgamating with another large organisation whose Chairman had a reputation for being efficient but ruthless.

At the rationalised level the objectives were very much concerned with professional competence and the ability to meet urgent demands with both speed and quality. But whereas success in an independent company was reflected in profits and turnover, here it could only be the time schedule and a subjective interpretation of creative skill. The basic design work became lost in the complexity of the marketing mix and there had been very little attempt by the Company to conduct controlled experiments with point of sale display units. It was impossible, therefore, to allocate any precise quantitative value to such units, and to the quality of creative skill involved.

The budget for the Studio seemed to be the main economic factor involved. Since there was no systematic costing of jobs processed there appeared to be an implicit assumption that the cost of basic design work carried out by the Studio was proportional to the total cost of display work requisitioned by each Product Manager. The other possible alternative is that total cost of the Studio was included with other overheads and allocated in the approved company manner.

Price policy, where used for special items and subcontracted work, was to charge the appropriate Product Manager with the full cost, or estimated full cost.

The factors influencing purchasing policy for display work corresponded closely with those 'assumed' by suppliers. Quality, delivery, and price were in the same order of priority but this company did also raise the question of security. The Merchandising Manager and Studio Manager visited potential new suppliers to satisfy themselves that security precautions were

sufficient to protect new ideas from leaking out prior to the official launching date. In some cases orders had been placed overseas at considerably greater cost in an effort to maintain secrecy.

A great deal of effort is put into forward planning for merchandising campaigns. However, a significant proportion of projects are still launched with inadequate time for normal preparation. In such cases the orders for finished work are placed with firms who have supplied similar items previously and an indication is given of the urgency involved and the willingness to pay any additional costs for meeting the delivery date. This is a situation open to exploitation and which can be rationalised fairly easily by the supplier. The cost of purchases is thus frequently higher, and sometimes considerably higher, than it need be but this is recognised by the company and in many instances condoned by the buyer. In this situation a seller, normally operating under conditions of imperfect competition in the small group, suddenly finds himself in the position of an 'informed monopolist', and finds it extraordinarily difficult to resist the temptation to take advantage of his position, albeit a rather 'enlightened' advantage related to long term relationships. This 'customer created monopoly' is an interesting, but apparently not unusual, situation.

A.

1967 Display Material Schedule

Grocery Division

National
Current Orders: August 28th
Material use date August 28th
Colour Code: Light Blue

ITEM	QUANTITY	PACKING	DISTRIBUTION	C.E.
Yellow "V" Dump Bin	4000	x 5 Singles	Allocated	£2000
Backing Card	4000	x 5 Singles	to A.S.M.'s	£1000
Shelf Talker	5000	x 10	in quantities advised by	£ 400
Counter/Gondola Dispenser	5000	x 10	F.W.P.	£ 500

1. 30 sets of proofs required for Area Meetings by ~~August~~ 7th.
2. 600 illustrated binder leaflets required by ~~June~~ 17th.
3. Reps/Trade leaflet required.

Artwork by	Stock by
[illegible]	[illegible]

B.

ADVERTISING MATERIAL PROGRESS SCHEDULE

NO. [illegible] - 260
(Replaces Progress Schedule No. 259)

COUNTER/GONDOLA DISPENSER
- 5,000

		DATE	REMARKS
1.	Committee		
2.	Marketing Programme		
3.	Requisition	22.5.67.	
4.	Stores Packing Details Cleared	10's	
5.	Address Labels Reqd.	29.8.67.	
5a.	Deliver to Stores	4.9.67.	
6.	Clear Stores	11.9.67.	
7.	Use	2.10.67.	

8. Special Items

SUPPLIER [illegible]
[illegible]
[illegible]
DATE 17/7/67
1/8/67
4/8/67

R. [redacted]

REQUISITION C. No. 31/ 4394

Department: BUYING OFFICE Date 28. 6. 67.

Location [redacted] S/M STORES Dept. Chargeable 734 D.

To be signed for by S.W.D. and Approved by [redacted]

QUANTITY	PARTICULARS
4000	YELLOW "V" DUMP BIN. - PACKED IN BUNDLES OF 5.
4000	BACKING CARDS - SLEEVED SINGLES IN BUNDLES OF 5
5000	SHELF TALKERS - 10 per envelope.
5000	COUNTER/GONDOLA DISPENSERS - PACKED IN 10's.
Y ORDER NUMBER OF PRESENT STOCK BY. /	Price changed to 2/4d SWD. If Stationery is required send this to Planning Office.
FOR BUYING OFFICE USE ONLY	Date Order Placed ... Order No. BY ... Firm ...

015—BY17/6123—CN829F

D.

[illegible]

Size: As rough.

Printed photo litho in 6 colours on one side only, design bleeds, punched out to shape, made up, but delivered flat,

[illegible]

Please submit [illegible] materials incorporating [illegible] and sides that can be [illegible] when dispenser is erected.

To be packed in parcels of 10, each parcel to bear an identification label showing description and Code No.

30 proofs required by end of JULY.

Print must be solid and dry hard.
Accurate register essential.

[illegible]: 29th August, 1967

[illegible] TO:

[illegible]

E

Forman of Nottingham

THOMAS FORMAN & SONS LTD PACKAGING · DISPLAY · BUSINESS PRINTING
HUCKNALL ROAD · NOTTINGHAM Telephone: Nottingham 65573 Telex: 37114

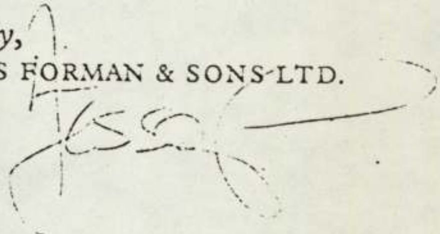
OUR REF: YOUR REF:
DLJ/SMG
7th July 1967.

QUOTATION No. 6650.

Dear Sirs,

Thank you for your enquiry, and we have pleasure in submitting our quotation for your consideration. This is subject to the Conditions of Sale detailed overleaf.

Yours faithfully,
THOMAS FORMAN & SONS LTD.



5,000 Dispensers, overall size 21½" x 17½" flat. Litho'd one side only in 6 colours on .030 Double White Lined Folding Box Board. Cut and creased to shape, glued up, packed flat (rubber banded and tissued) in parcels of 10, labelled and delivered in bulk to one address.

@ 1/11d each = £479. 3. 4d

Terms: Nett Monthly.
Carriage paid in bulk to your address.
Finished artwork to be supplied to us.
Quotation includes cost of colour proofs.

S: J. K. L. MARDON (CHAIRMAN) B. B. RICHARDS J. B. IRVING R. C. BRAMLEY EXECUTIVE DIRECTORS: J. M. T. PERRY G. S. BUXTON

Please reply to :
ROSSENDALE WORKS,
CHASE SIDE.
SOUTHGATE N.14

Telegrams : "Harbrolith, Newsouth, London"
Telephones : Palmers Green 0131 and 0182

JAMES HAWORTH & BROTHER LTD.
DESIGNERS, LITHOGRAPHERS & FINE ART COLOUR PRINTERS
HEAD OFFICE 21, SOHO SQUARE, LONDON: W.1.

CTORIES: FLEET STREET, LEICESTER
ROSSENDALE WORKS, SOUTHGATE, N.14

TELEGRAMS: HARBROLITH, NEWSOUTH, LONDON
TELEPHONES: PALMERS GREEN 0181-2, GERRARD 2406

ESTIMATE

- 2 -

DESCRIPTION: 2) Counter / Gondola Dispenser.
Reproducing complete artwork, supplied by you. Photo litho and printed in 6 colours on white chromo paper, lined to 16oz. British Board, kraft lined at back. Cut to shape as one piece size 17⅛ x 17.5/8 with front and back scores. Made up with 2 gluings and packed in kraft paper in parcels of 10's with the side pieces folded inwards.

PRICE: 5,000 copies @ 2/4¾d. each
= £119-15-10. per 1,000 = £598-19-2. the lot.

Alternatively, if lined to chipboard, calliper .035

5,000 copies @ 2/4¼d. each
= £117-14-2. per 1,000 = £588-10-10. the lot.

Quotation No. BM 1041

G.

2·36

Your Ref

This quotation is given subject to the Conditions endorsed hereon. These Conditions shall be deemed to be embodied in any contract based on or arising out of this quotation unless otherwise agreed in writing.

Terms: One month net

Carriage paid in bulk

In all communications arising from this quotation please quote the reference number.

Caustons

7th July, 1967.

'Counter/Gondola Dispensers size 17½" x 18½" flat, printed offset photo litho in 6 colours on white cartridge paper, mounted on 1 lb. British straw board, white backed, punched to shape and made up as our dummy. Packed in parcels of 10 with identification label, and delivered in bulk.

For 5,000 @ 2/8½d. each. £675 0s. 0d.

One piece of complete flat artwork to be supplied by you. + 429..

Company C_2

Company C_2 was a large well established international organisation employing 75,000 people and having a turnover of £215 million. This was one of the large firms who completed the questionnaire and was subsequently visited in order to obtain some information for comparison purposes. The interviews were initially concerned with a discussion about company objectives and policies, and in particular about price policy, and took place at two levels. The first interview was with a Commercial Director at main board level and the second with a Marketing Manager of one of the subsidiary companies. A third, and quite unrelated, visit was made to obtain information about the company's own display producing unit which, along with C_1, C_3 and C_4 provides evidence of 'inplant' activity in this industry.

Interview No. 1.

The Commercial Director interviewed was on the point of retirement and had been with the company over 30 years. Much of his time in recent years had been taken up preparing information for the Royal Commission on Monopolies and the National Board for Prices and Incomes.

There was no written statement of objectives in this company and the Board of Directors left it to the individual companies in the group to submit a plan for the ensuing year which was then considered by the Board. Detailed statements of objectives within the plan were drawn up by the Maketing Managers of the various companies. These were considered against the following critera.

a) The company should not make too much profit.

b) Profit should be more than in the previous year.

c) Profit should be related to turnover.

If the submission satisfied the Board on these main issued it was accepted and used as a basis for making for the period involved. If it did not prove satisfactory it was returned, with comments, for amendment. The basic long-term objectives appeared, by implication, to be financial stability and continuity although b) above suggests that some element of growth was also included. Control at Board level was exercised by "looking at monthly reports to make sure that companies are keeping on target".

Price policy was not a Board decision, it was left to the Marketing Director who advised the Board. Here again policy did not appear in written form but appeared to be the same

in the two main market segments, the original equipment sector and in the replacement market. In both cases the policy was to charge what the market would bear. There was, however, a slightly different emphasis in each. In the highly competitive original equipment market the objectives was "to cover full cost and get as much as we can above that; but most of our sales appear to be at full cost". The replacement market was slightly less competitive and the emphasis here was "what the market will bear, except that we musn't make too much profit".. The caveat about profit was mainly directed towards certain items for which the company held a monopoly and where, theoretically, prices could be increased.

One of the major problems for organisations in the automobile and accessory goods industries is that of maintaining a supply of spares for obsolete models. This is often an expensive business and the company had recently approached and Prices and Incomes Board for permission to increase the price of such items. As a compensation the company were also agreeing to reduce the price on certain other fast moving lines. Permission was obtained and the company were able to raise the appropriate prices. In the discussion on this topic the Commercial Director made the point that they were being forced to reduce the other items anyway because of German and Japanese competition so nothing was lost in this respect.

From the company's point of view the most important factors influencing price were market opportunity and cost. From the customers' point of view it was felt that service, loyalty and dependability were more important than price. It was interesting to compare these comments with that made about buying, i.e. "it doesn't really matter whether you could get it cheaper or not so long as no one else does".

Interview No. 2.

The second interview was with the Marketing Manager of one company within the group which employed approximately 1,500 people. It was first established as a separate company in 1965 and had grown fairly steadily since that date. Again company objectives were not issued in written form in a formal way but were incorporated in quite specific terms in forward planning. The long-term objective was "to become the largest company of its kind in Europe". Originally this had been in the United Kingdom" but the company now believed that some economic association with the European Economic Community was inevitable and had extended its horizons to embrace that market also. In the short-term the marketing objective was to increase turnover at the rate of 5% per annum and, while doing so, to increase the rate of

return on capital employed to 21%.

These objectives differed considerably in emphasis from those quoted by the Commercial Director and were symptomatic of a major reorientation in outlook. Previously, in the parent company, the emphasis had always been placed upon production, costs, and quality; now a similar kind of emphasis was being directed to marketing and to the identification of marketing opportunities both in this country and overseas.

Comments concerning price policy were similar to those made in the earlier interview. There were two basic markets, original equipment and replacement. Original equipment contracts were dealt with by the Marketing Manager who used his discretion to modify prices prepared by the Commercial Department. The Commercial Department worked out the full cost, including overheads, and added an appropriate margin to achieve the return on capital employed set as an objective.

In the replacement market the process was a little more formal because the company issued price lists recommending retail prices. There was a standard discount of 42% on list price for wholesalers and agents, and 27½% on list price for retail outlets. A further discount of 5% was offered for orders in excess of 1,000 units and 10% for orders exceeding 10,000 units. These regulations were adhered to fairly rigidly within geographical areas although there was some discrimination between territories.

Market opportunity, and then cost, were seen as the main factors influencing price although there was a casual reference elsewhere to the need to maintain turnover. The main factor thought to influence the customer was service and dependability and this was also reflected in the comments made by people in the display producing unit.

Interview No. 3

The Display Department of C_2 had been in existence since before 1939 when the number employed was only 6. The manager of the Department was originally trained as a draughtsman who then did some architecture and later some interior decorating. After the war the department grew rapidly to reach a peak of activity in 1953, Coronation Year, when every wholesale and retail outlet in the country was demanding special display units. At that time the unit employed 30 people and the figure had remained at that level ever since although the composition of skills had altered significantly to cope with the advanced technological nature of many of the products. Display work now frequently involves designing and constructing

working models which have to be installed and maintained at exhibition centres in many European countries. This kind of responsibility calls for a team of highly qualified specialists rather different in character from the earlier display producers.

The department is responsible for a total expenditure of over £173,000 per annum. This represents the amount budgeted for display work by most of the main companies in the group. One or two other companies request work from this department without actually specifying the limit to which they should go. In such cases the manager of the department uses his discretion and is informed when he has exceeded the appropriate figure. So far this had never happened and this year the manager is conducting an experiment in spending to discover just where the limit is!

About two thirds of this amount is placed with outside suppliers leaving an output equivalent of £60,000 undertaken by the unit itself. This includes the design and construction of shop facing, shop fittings, window displays, exhibition work and working models. There is a small exhibition unit located in London employing 4 people who are mainly concerned with erecting the display housing at exhibitions held in London but they do very little other specialised display work.

When an order is received from one of the companies in the group a Job Card is issued and accompanies the job until it is completed. All material costs incurred, and subcontracted work, are entered on this Card so that it may later be debited to the company concerned. Labout costs are not entered upon this Card and no record is kept of the time spent upon individual jobs in the department. Thus there is very little basis, except experience, upon which to compare the cost of work done inside the department with that done by suppliers.

All display work requiring runs of less than 25 units is done inside the department wherever possible. Work is normally scheduled well in advance so that it is possible to obtain quotations from a number of suppliers. The main criteria of acceptability in placing work outside were service, quality, delivery, and then price. Occasionally an urgent job is placed outside which may involve a price rather higher than would normally be accepted. This causes some concern and is discussed at length with the supplier. In order to avoid this the manager is encouraging the use of critical path techniques particularly for exhibition work requiring special outside work such as photography or type-setting.

As in C_1. the objectives of the department were to meet the urgent demands of the various companies and to maintain the quality image of the company through its display work.

There was no apparent cost/benefit analysis on the work of the department and, therefore, no economic basis for comparing the inplant display producing activities with those of outside units. Here again the Central Purchasing Department delegated responsibility for placing, and progressing, work of this kind to the display unit because of the special skills involved.

Company C_3

This was another large organisation with a design department of its own. In this case the company was mainly concerned with retailing and had approximately 200 branches scattered throughout the U.K. It was first established in the early part of the nineteenth century, became a private limited company in 1917 and subsequently went 'public' in 1948. The authorised capital was £3.6 million in 1967 of which £2.8 million was issued. During the last financial year the company's turnover was over £10 million and the total number of employees 3,000.

The display department was located at the head office in Birmingham and had been in existence, as a separate entity, for about 13 years. It was essentially a post-war development where growth had been based upon the increase of the number of the firm's retail outlets. At the time of the visit in 1969 the department had six employees, the Manager and a male colleague, who were the senior designers, and four young female artists who helped with the detailed drawings and the preparation of models. This was a rather depleted work force because two members of the staff had recently left and had not yet been replaced.

Once the design work was completed and the working models prepared these were passed to Carpentry Department downstairs who made up the actual display units and later to the Covering Department where the units were upholstered. Most of the time the department was concerned with designing shop window displays but occasionally it was involved in helping to plan complete shop layouts and display decor.

The main departmental objective was concerned with catering for all the display needs for all the firm's branches. This was not always possible and occasionally some silk screen printing was placed with an outside supplier. When this happened care was taken to see that the urgent items were always dealt with within the department and only the less urgent items were placed outside. This situation appeared to be a rather rare occurrence since the department seemed well able to cope with the demands placed upon it.

The department was quite self contained in a physical sense but had no separate budget of its own. Thus the Manager was not requred to account for his output, to some extent, this was realistic since he had little control over the flow of work. He was, however, required to enter details of time spent and materials used for each job and these were recorded on the appropriate Job Sheet. Labout costs were charged at a specific rate per hour based on a 38 hour week: Materials were charged at cost, where these were identifiable. The total cost was, therefore, a net

cost free of direct and indirect overheads. The Job Sheet was forwarded to the Accounts Department when the job was completed and that was the limit of the accounting action required by the Departmental Manager.

There was no evidence, at departmental level, of comparison between the cost of work done inside the department and what it would cost if placed outside. There was also very little information available about what these outside prices might be and no great concern to find out. So once more there was very little basis for an economic comparison of activity undertaken within a large company and that carried out in a smaller independent organisation.

Summary

The amount of information and the level of accountability in the department was considerably less than in many other inplant display units. Because of this the objectives of the department were very much narrower and restricted to job performance. There was little evidence of a comparison between the cost effectiveness of work done inside the department with that of competitive units outside nor did there appear to be any awareness of the need to do so. The principle that the company, in the normal course of events, did all its own display work seemed well established and accepted and there appeared to be no desire to question this state of affairs.

Company C_4

The fourth organisation having its own display department was a large engineering company employing some 14,000 people with a turnover of approximately £70 million. The company was first established in 1884; it became a private company in 1920 and remains so even today. Nominal capital employed was £1,000,000 in 1967.

The department itself was established in 1946 by its present manager, an ex war-time colonel, who was originally trained as a cost/estimator. It grew fairly quickly in the early years to reach its present staff of 9 employees comprising 3 designers, 2 joiners, 2 painters, 1 metal worker/ model builder, and one general worker, an ex apprentice. A further apprentice is being recruited at the moment but it is unlikely tha the department will expand any further. As the Manager said, "It growed like Topsy. I have a ver good team whom I can control effectively and I don't want any more". All employees in the department at the moment are on staff status and are paid a flat rate salary which incorporates an overtime element. This enables the employees to obtain the benefit of overtime payment each week instead of spasmodically as the flow of work dictates.

The objectives of the department are to provide the companies within the organisation with a first class exhibition service in any part of the world, and to promote the company's products. Pricing policy, such as it is, involves a straightforward cost plus calculation of work carried out which is debited to the company sponsoring the job.

The department had no budget of its own and recovered its expenditure from charges debited to companies supplied or from research grants made to finance the construction of special pieces of equipment; an example of this would be a working model of some product manufactured by the company which could be used on a number of occasions in various exhibitions and demonstrations.

Brochures and notification of special events are received from the various exhibition centres in this country and overseas, including countries in Eastern Europe. A programme of possible displays is prepared each year by the department covering a twelve month period from October 1st. The cost of each display is estimated and details and recommendations are submitted to the various companies concerned by the previous September. When approvals are obtained the department proceeds with the necessary arrangements. Two illustrations of such estimates are given below.

Belgrade Motor Show. April 1969

	£	s	d
Floor space	483	6	8
Stand fitting	180	0	0
Erection of units	400	0	0
Photography & typesetting	150	0	0
Freight	1,200	0	0
Supervision	250	0	0
	2,663	6	8
Less Board of Trade contribution	350	0	0
Net estimated cost	£2,313	6	8

Leipzig Fair. Autumn 1969

	£	s	d
Floor space	200	0	0
Transport	250	0	0
Representation	150	0	0
Stand fitting and various charges	150	0	0
Net estimated cost	£750	0	0

The figure finally debited to the company concerned is made up of the actual costs of work done inside the department. This latter cost is made up as follows.

Labour Costs
x hours @ 10/- per hr
Direct overheads
100% of labour cost
Material cost

} Total production cost + 15% (indirect overheads) = Total cost

In a normal year the department arranges approximately 50 exhibitions in various countries including such centres as Brno, Leipzig, Belgrade, Paris, and Stockholm. The total expenditure involved is between £50,000 and £70,000, of which £15/20, 000 is paid out for erection and construction work subcontracted to outside firms. Very little actual display work is subcontracted although the department does occasionally place photographic work and typesetting with other firms. Quotations are obtained from outside firms for work of this kind even though the company does have its own photographic department. On one occasion the company's own estimate of cost for a particular job was three times that quoted by the outside supplier in which case the order was placed outside. These quotations from outside suppliers were often used as the basis for estimating the costs for exhibition work such as those quoted above.

All design work for exhibitions is done within the department and every effort is made to utilise prefabricated structures which may also be produced in the department and transported to the site. Erection, and some construction work, is subcontracted if the exhibition is located away from the Birmingham area. The Manager of the department normally invites three quotations although "we almost always use ....". If the price of the company concerned is out of line with the other quotations the Manager 'negotiates' with them until some compromise is reached. This preference for staying with the same firm is based upon the Manager's insistence that he should be able to talk at director level to the erecting company on the floor of the exhibition hall. In this way changes in the structure which become obvious at the last moment may be put into hand immediately, i.e. without the workmen having to get 'head office' approval. Large companies do not offer this service facility so, having found a smaller company which does, the Manager continues to use it. This is an interesting differentiation in service which creates a monopolistic type situation.

Summary

The objectives are similar to those in other inplant units and again differ from those expressed by independent companies. The Manager has never carried out any form of cost/benefit analysis for display work undertaken within the company but stated that the work they did must be cheaper than it would be if placed outside. This was based upon the assertion that the department only charged real costs of freight and accommodation whereas delegating this responsibility to other people would result in a profit margin being added to those items which the sponsoring companies would have to pay.

There appeared to be some contact with other display producers and a number of quotations were received which were used for costing purposes. It was rather interesting to find, however, that the Manager was using a figure of £1 per hour to cover labour costs plus direct overheads when another inplant unit was using £2 per hour as the appropriate figure. This suggests that the information basis of decision making was somewhat suspect. Because of this, and because of the unsophisticated nature of the costing process, it was again rather difficult to draw a comparison between the activities of this inplant unit and those of an independent organisation.

Company E_1

This company was first formed by the person whose name it still bears some time before 1914. It continued to operate under its original owner until 1938 when it was acquired by two brothers, one of whom is now Managing Director and the other Sales Director. The larger part of the company's capital was divided equally between the two brothers and the remaining shares were held by other members of the two families. This latter category included the Managing Director's son who was actively employed in the firm as Production Manager although he seemed to spend part of his time operating a drilling machine in his own department. Both the Managing Director and his son had been trained originally as engineers.

At the time of the visit the company employed 34 people. This total included an office worker, 4 tool setters, and 25 female operators as well as the family members mentioned above and some unskilled workers. Turnover during the previous financial year had totalled £60,000 yielding a profit margin of "£10–15,000, before tax." Long term company objectives appeared to be identical with short term objectives which were to "keep output steady at £60,000 per annum and to make a profit margin of £10–15,000, before tax." These targets had been agreed by the family executives and it had not been considered necessary to put them in writing.

The Managing Director stated that the stamping presses used in the production process were fairly light ones, i.e. up to 150 tons; this meant that the company was operating in the most competitive sector of the market. Competition consisted of a few large companies and a much larger number of small ones. Together these companies provided an output capacity which was well in excess of the normal level of demand. This company was no exception and the explanation was given that it was necessary to maintain a number of spare presses (50% of the total!) in order to accommodate the many process changes which were involved in many of the orders received. The potential output was thus considerably greater than that normally achieved.

The kind of products which the company produced were described as "a cheap class of work." This did not mean that the quality was inferior or that the materials used were cheap but simply that such items did not require a great deal of skill and expensive machinery to produce. The range of products made included car body number plates, metal labels, gas meter dials and watering can roses, and the materials used were steel, tinplate,

aluminium, brass, and nickel, which was currently costing around £4,000 per ton.

The selling function was carried out by agents in Sheffield, Liverpool, Glasgow and London, and by both the Managing Director and the Sales Director in the Midlands area. There was a small number of large customers, such as Stewarts and Lloyds at Corby, who were handled by the directors but a much larger number of small companies who were dealt with by whichever selling unit was closest geographically. The rate of enquiries varied from two to twelve per day, all of which were handled by the Managing Director. The 'conversion' rate into orders was remarkably high and wassaid to represent approximately 75% of the quotations made.

The firm's pricing policy was quite clearly stated by the Managing Director to be to charge what the market would stand. This was illustrated by means of the following example, the costing and pricing process for a watering can rose calculated on the basis of 1,000 units.

			shillings	
3¾" rose.	Front piece			
	Materials: 68lbs @ 6/3		425	
	Labour:	cutting	15	
		piercing	15	
		raising	15	
		polishing	46	
			516	516
	Back piece			
	Materials: 108lbs @ 8¼d		77	
	Labour:	cutting	15	
		raising	15	
		piercing	12	
		fitting socket	18	
		rivetting socket	12	
			149	149
	Socket			
	Materials:		240	
	Labour:	forming	18	
		tapping	20	
			278	278
	Screw collar			
	Materials:		140	
	Labour:	cutting	21	
			161	161

	shillings	
		B/F 1,104
Washer		
Materials:	88	
Labour: cutting	5	
	93	93
Assemble screw washer	20	
Rose assembly and packing	20	
	40	1,237

This information was then used in the following was to alculate price.

Materials: total cost	970 shillings per '000
Labour	267 shillings per '000
Overheads: +25% of labour cost	67 shillings per '000
"On-cost"	256 shillings per'000 (roughly 100% on labour cost)
Price quoted	1,550 shillings per '000

In this particular case the total scrap reclaim value was estimated at 137/– per '000 but this amount was not deducted from the total material cost included in the calculation. Thus the profit figure should normally be 256/– + 137/– on a total estimated cost of 1,167/– per '000. This represented a return of approximately $33^1/_3$% on total cost and 25% on selling price. The return on value added was approximately 55%. Unfortunately even the overhead cost was only a guess because the Managing Director admitted that he did not really know what these were. On small orders the "on-cost" element might be as large as 300% on labour costs. There was no set procedure to establish the appropriate figure, the Managing Director did it himself. When it was thought necessary, or desirable, some orders were subcontracted. On large, subcontracted orders a margin of 7½% was added for handling costs and profit and on small orders this was increased to 10%.

This appeared to be the most intuitive price decision making technique of any of the firms visited, with the Managing Director thinking of a price and then working backwards to identifiable material and labour costs to see whether the margin "looked" enough. However

the results had been satisfactory in previous years despite the fact that until the revision, just prior to the visit, the previous price had remained unchanged since 1967.

Watering can roses were a useful product in the firm's range because it was possible to manufacture fairly large quantities for stock when business was slack without spending a great deal of money on expensive materials.

The labour force in this firm consisted mainly of women, many of whom worked on an evening part-time basis. These operatives provided a flexible element within the labour force which meant that the materials and labour costs identified in the above calculation did represent the marginal cost for this product. The Managing Director was thus in a position to compare marginal revenue but obviously preferred to restrict output instead of stimulating additional demand by reducing prices even in a very competitive market. The conclusion to be drawn from this situation is that so long as the company maintained a turnover which achieved a profit target of £10–15,000 there was no desire to deviate from the present pattern.

Company $E._2$

Company E was first formed in 1919 by a toolmaker who was the father of the current joint Managing Director. The father died in 1968 and the company was currently owned by his widow, the two sons, and their two wives. Each of the ladies held 1000 shares and the two sons 10,500 shares each. One son had been trained in the same trade as his father and the other son was a jig and tool draughtsman. Thus the two owner-managers were both engineers and both retained an active interest in the production side of the business although nominally one was responsible for production and the other for the commercial activities.

At the time of the visit the company employed 50 people, 40 of whom were women, and occupied premises covering 14,000 square feet. Turnover during the previous year had been £107,000 compared with £109,000 in 1968, £98,000 in 1967, £90,000 in 1966 and £128,000 in 1964, "the year of the big freeze-up". The significance of this last comment became obvious when it was known that one of the company's major products was paraffin antifrost heaters for greenhouses and cars, etc. Profit in the last year was 17½% on turnover and 15½% on a capital employed of £120,000. This was slightly more than in the previous year when the profit had been 15% on a turnover of £109,000. So that while sales were down slightly both the profit margin and the total amount of profit were up.

The long term company objectives were stated to be growth and profitability. These were not written down anywhere but were agreed between the two brothers. The short term financial objective was rather more specific and was written at the bottom of sheet D2D which is appended below. This objective was set during the preparation of the budget for 1968/9 but was later retained for the following year. The marketing objective set for the current year was £150,000 which seemed rather ambitious and was recognised to be so by the M.D. interviewed.

In addition to the heaters mentioned above the company produced air filters, carpet fixing plates, fireguards, border sprinklers, chain vices, car foot pedals, boot lid strengtheners, head rest strengtheners, tun dishes, and other similar products. There was some concern over the company's failure to produce a flow of new products and this was attributed to the fact that the two brothers were so busy with the day to day affairs of the firm that they had no time left to devote to this particular task. This was seen as a continuing problem although the reason why so little had been done recently was that there had been a rather serious fire on the premises. Output had been interrupted for a short while which had meant that stocks of finished goods

had been depleted and some loss of sales had resulted. Another problem which the company faced on the production side was their inability to replace operators who left the company. The M.D. was proud of the fact that there were no Trade Union members in the firm but did not think that this was in any way responsible for the labour problem.

The market for products of this kind was said to be extremely competitive Competitors were mostly firms of about the same size as this one but who provided, in total, a capacity far in excess of normal demand. Thus prices were sometimes extremely keen and were "well below standard cost". The M.D. explained that the market had a very pronounced seasonal effect in the past but this was now diminishing, perhaps due to the diversification of products. Most of the output was sold in the home market but a small quantity was exported.

The vast majority of the company's 450-500 customers were small wholesaling or retailing organisations. A small number, between 5 and 10, were large chain stores such as Woolworths Ltd., and Timothy White's Ltd., and some motor vehicle builders. Sales were normally handled by the two M.D.'s and the company's representative but about 20% of the turnover was also sold through manufacturers' agents on a 5% commission basis.

Price policy was not issued in written form since it was formulated and implemented by the two Managing Directors. It was quite clear that the company's policy was to charge what the market would stand though in many cases this meant that prices had to be competitive. Thus occasionally the price quoted was below the standard price calculated on the basis of the costing system outlined in D2A/B/C/D/E, but in 90% of the cases the prices quoted were slightly higher than the standard price. Until 1968 the method of calculating the standard price was to add 350% to the labour costs and 25% to the cost of materials. The new costing system was designed for the company by members of the Small Business Centre at the University of Aston in Birmingham and replaced the old system at the beginning of the 1968/69 financial year.

It was interesting to find that the calculations used during February and March 1969 involved both the old and the new method but that the quotation issued in May was based upon the old method only. There was a certain amount of 'rounding off' in the arithmetic which supported the M.D.'s statement that most prices were slightly above the profit margin specified.

The only evidence of a significant deviation from the standard price was that shown in the case of the Air-filter. Originally the M.D. had been given a hint by the buyer that a price of 10/- might be acceptable. Because of this the firm quoted 9/8d each against a 'new' standard

price of 8/10½d and an 'old' price of 9/3½d. This quotation was not acceptable to the buyer so the company reduced the quotation to 8/11d, at which level the buyer seemed interested, but apparently not enough to award them the order.

Conclusion

This was a second generation company where ownership and managerial control still remained with members of the family. The professional background of the two Managing Directors was once again based upon a technology and, as was typical for a firm of this size, both men were very much concerned with the practical problems of production. It would appear that the directors had been very much aware of their weaknesses on the financial aspects of the business and had obtained assistance from an outside organisation to develop a standard costing and budgetary control system.

The long term objectives were rather vague and general but the short term financial and marketing objectives were quite specific. Unfortunately the marketing objective did not seem to fit in with the profit objective which was related to the same throughput the company had achieved in the previous year. A turnover of £150,000 would, therefore, have resulted in a very much higher profit than was aimed for. It was noticeable too that the fall in sales during the previous year did not appear to have stimulated any increased marketing effort, i.e., in terms of increased advertising or reduced prices.

There were broadly three types of products, those sold under the company's own brand name, those similar products made to be sold under the customer's brand name, and those special items made to customers' specification. The first of these groups was manufactured for stock and deliveries were made ex stock. The other two groups of products were quoted for and made to customers' requirements. In this latter case, therefore, the company was offering units for future delivery and the escapable cost might be assumed to include both material and direct labour costs. In the former case this was not true and when output was below capacity level, the escapable cost was mainly the material cost involved. It was at this time that the company filled in the gap in its production programme by making such items for stock.

The M.D. did not consciously use the MR = MC principle to determine the level of output but seemed quite satisfied to use the standard price, plus or minus a small percentage, as the criteria for operating. The company thus appeared to be operating at a level of output below its optimum point in the short term because of its unwillingness to adjust prices until the MR = MC

position was achieved. In the long term this could well have been the optimum position because of the possible reaction of competitors to price cutting. This competitive situation was of some concern to the M.D. and he explained that on some lines he 'followed' the movements of his competitors' prices. Thus if a leading competitor put his price up by 5%, he would do the same.

The only discrepancies in the pricing system apparent in this company were the failure to utilise the new costing system for the quotations issued in May 1969, and the attempt to increase the profit margin on the Air filter from 15% on capital employed to approximately 37%.

SUMMARY OF STANDARD COST RATES 1968/69 (£/HR.)

	COST CENTRE	1	2	3	4	5	6	7
(a)	Direct Variable Cost Rate	.007	.034	.019	.041	.007	.170	.006
(b)	Direct Labour Rate	.292	.300	.275	.317	.250	.292	.267
(c)	Total Direct Variable Cost Rate ..	.299	.334	.294	.358	.257	.462	.273
(d)	Direct Fixed Cost Rate	.403	.465	.575	.339	.318	.436	.910
(e)	General Fixed Cost Rate	.418	.418	.418	.418	.418	.418	.418
(f)	Profit Rate (£15,000)	.325	.325	.325	.325	.325	.325	.325
(g)	Total Contribution Rate	1.146	1.208	1.318	1.082	1.061	1.179	1.653
	Total Standard Cost Rate	1.445	1.542	1.612	1.440	1.318	1.641	1.926
		HP	PP	H/C	Spot Weld	Sold	Spray	Pack

(c) + material = out of pocket

(c) & (d) + (e) = break even

STANDARD COST RATES 1968/69

COST CENTRE Description	1 Hand	2 Power Presses	3 Sundry M/cs.	4 Spot Welders & Riveters	5 Solderers	6 Paint Shop	7 Packing	8 Tool-room	TOTAL
Number of Machines	47	6	4	3	–	–	–	–	
Number of Operators	8 F.T. 6 P.T.	3 F.T. 2 P.T.	– 1 P.T.	1 F.T. 1 P.T.	– 3 P.T.	3 F.T. 3 P.T.	3 F.T. –	3 F.T. –	19 F.T. 16 P.T.
Weekly Attendance hours	443	162	25	60	64	204	120	–	–
Weekly Direct Hours	400	142	23	53	57	182	105	–	962
Weekly Standard Hours @ 100% .. Efficiency	400	142	23	53	57	152	105	–	962
Working Weeks	48	48	48	48	48	48	48	–	48
Annual Standard Hours	19,200	6,186	1,104	2,544	2,736	8,736	5,404	–	46,176
Capital Value: Replacement Cost (1968)	£ 1,520	£ 5,720	£ 2,670	£ 790	£ 135	£ 5,500	£ 500	£ 5,200	£ 22,035
Present Worth	304	(1,712) (192)	950	356	60	1,925	226	2,338	8,062
Life –years	4	(9) (2)	9	9	9	7	9	9	
Floor Area (Sq. Ft.)	2,195	880	1,000	480	525	2,600	5,240	300	13,220
Direct Variable Costs	£	£	£	£	£	£	£	£	£
Gas	–	–	–	–	–	1,170	–	–	1,170
Power	–	137	2	90	–	211	–	10	450
Manufacturing Expenses	91	32	6	12	13	42	24	–	220
Plant Maintenance	45	59	4	3	6	72	4	7	200
TOTAL	136	228	12	105	19	1,495	28	17	2,040
Direct Variable Cost Rate £/Hr. ..	.007	.034	.019	.041	.007	.170	.006	–	
Direct Labour Rate £/Hr.	.292	.300	.275	.317	.250	.292	.267	–	
Total-D Total Direct Variable Cost	.299	.334	.294	.358	.257	.462	.273	–	

Direct Fixed and Associated labour Costs	1	2	3	4	5	6	7	8	TOTAL
	£	£	£	£	£	£	£	£	£
Cost of Downtime	600	288	28	106	84	288	192	–	1,586
Training Levy	127	50	5	17	67	67	59	8	350
Indirect Labour (as per schedule) ..	3,812	1,354	1,187	431	466	1,996	2,785	1,235	12,266
National Insurance and Grad. Pensions	784	281	45	104	133	347	353	53	2,100
Holiday Pay (Direct)	541	140	17	52	53	157	105	–	1,065
Oil Heating (Sq. Ft.)	93	37	42	20	22	110	222	14	560
Rates (Sq. Ft.)	199	80	91	44	47	236	476	27	1,200
Plant Maintenance	45	59	4	3	6	72	4	7	200
Repairs to Property	100	39	45	23	23	188	237	15	600
Insurance	68	118	65	23	12	144	102	98	630
Depreciation	76	276	106	39	7	275	45	260	1,084
Sub-Total	6,445	2,722	635	862	870	3.810	4,580	1,717	21,641
Costs of Toolroom	1,280	454	–	–	–	–	–	–	–
TOTAL	7,725	3,3176	635	862	870	3,810	4,580		
Direct Fixed Rate &/Hr.	.403	.403	.575	.339	.318	.436	.910		

GENERAL FIXED COSTS

	£
National Insurance and Graduated Pensions	000
Staff Salaries	000
Directors' Salaries	000
Pension	000
Travelling Expenses	000
Commission	000
Advertising	000
Sundry Trade Expenses	000
Bank Charges	000
Audit Charges	000
Professional Charges	000
Staff Pension Scheme	000
Depreciation:-	
General	000
Vehicles	000
	19,285
General Fixed Cost Rate £/Hr.	.418

CAPITAL EMPLOYED

Direct Capital	22,035
General Capital (General Plant and Machinery Fixtures and Fittings etc	22,600
Building Capital	40,000
Average Debtors	16,000
Cars	1,800
Average Stock	18,000
TOTAL	120,435
Rounded	120,000

Profit required 15% on capital employed at replacement cost: £18,000 i.e.£15,000 from cost centres plus 10% return on material: £3,000

Contribution to Profit Rate £/Hr. .325

10,000 21/2
15000 20/8
20000 20/6
8 TO 10 WEEKS

DATE OF ENQUIRY = 11/3/69

AIR FILTER

EACH

FRAME — STEEL BLANKS: 63 x 1 7/8 x .020 x 0.28 = 1 LB
1 LBS @ 9½d LB. (ie (88-10 TON LENGTHS)) = 9½

ROLLED SECTION 20/8 + 2½% PER 100 FT. FOR 31'4" LENGTHS
= 2.542d /FT. ∴ SAY 2 LENGTHS = 62½" 1 OR PAIRS = 1 — 1¾

HANDLE — 2 x 3½ x .0... x .28 = .07 LBS @ {5d STEEL, 4d Z. PLATE} = 5/8" — ¾

POP RIVETS — 6 @ ¼d EACH — 1½

WIRE. — .125" DIA. 2 @ 16½ + 2 @ 14½ = 62"
24 FT = 1 LB. ∴ 1 FT. 1/24 LB
62' = .215 LBS. SAY .22 LBS @ 9¾d/LB (ie 90/9 CWT) = 2¼

GAUZE. — 1/16 MESH x 31 SWG ELECTRO GALV.

16½ = 22⅛ ✓ 14½ = 19½

1 FLAT PANEL 22 x 14½" = 320
1 " " 16½ x 19½ = 326
640 4½ □'

4½ SQ FT @ 10¼d SQ FT = 3-10¼ SAY 3-10¼

CRIMP. — 1st QUOTE ½d to ¾d SQ.FT LATER FREE. — -

5-4½

LABOUR

Operation		HP	P.P.	PACK
1/ SLIT & PIERCE (3)	4-2		.66	.25
2/ PIERCE ENDS & SWAGE (4)	4-2		.66	
3/ PIERCE FOR HANDLE	2-0		.33	
4/ 1st ASSY POP RIVET	8-6	1.43	.13	
5/ FINAL ASSY	52-0	8.70	.17	
6/ PACK	1-6		.17	
7/ BLANK HANDLE	9	10.13	2.12	.25
8/ PIERCE "	1-0	1.5	1.54	1.93
9/ 'U' RAGE	1-0	15.2	3.26	.48
	75-1			
	6 (6)			

M = 5-4½
12½% M = 8
CARR 2½
(18.90 = 2-7½
8-10½

CARR.
WT = 1 7/8 LBS EACH
9/16 x 25/BUNDLE = 11
SAY 11½ WITH HANDLE
16¾ x 14¾ x 11½
= 2820 INS³
= 1.64 CU.FT.
SAY 1⅝ CU.FT.
FOR 2000 LOTS
(ie 80 BUNDLES OF 25 @ 47 LBS EACH)
= 130 CU.FT.
TOTAL WT 33½ CWT
ATLAS £19-12-9
B.R. £35-2-6
CARLE £20-0-0
= 2½ EACH

4½ L = 2-4¼
M = 5-4½
¼ M = 1-4¼
CARR = 2½
9-3½

SAY 9/8

Order not received

IN THE END QUOTED 8/11

4

RECTANGULAR TANK HEATER – BOXED SINGLY

(SAME CARTON AS ROUND TANK IS USED)

TO FIND EXTRA COST OF PACKING SINGLY IN CARTONS:-

MATLS.	COST OF CARTON & OUTER WRAPPING IN BUNDLES FROM RND TANK COST SHEET (16/-+15/[illegible])	1-3¼
	DEDUCT BULK PACK COST. SEE PAGE 2. =	3
	EXTRA COST OF MATLS =	1-0¼
LABOUR	COST TO PACK B.S. FROM RND TANK COST SHEET	1½
There is a Region [illegible] [illegible] that Tank Carton	DEDUCT BULK PACK COST. SEE PAGE 2.	¾
	EXTRA LABOUR COST	¾ D

4½L = 3½
M = 1-0¼
¼M = 3
1-6¾
+5% KENT 1
+2½% SAY ¼
1-8 EACH EXTRA

PRICES BOXED SINGLY :-

DUPLEX 22/7½ + 1/8 = 24/3½ QUOTE 25/-

ONE INCH 18/11 + 1/8 = 20/7

Order not received

AUG 31ST 1967

CABLE HOUSING CUP –

MATLS

STEEL. | BLANK DIA. 3¼" STRIP WIDTH = 3½"

3½ × 3¼ × ·066 × 144 × 0.28 = 32¼ LBS/GR.

12360 ÷ 88 | 32¼ LBS × 87 GROSS = 25 CWT
± 10% | ADD 5% FOR SCRAP = 1¼ ; " ROLLING 1¾ ; 28 — WHEN ORDERING 26 CWT MINM, 28 CWT MAXM

COST 87 GROSS ON 28 CWT = 3136/87 = 36 LBS/GR.

36 LBS @ 8D/LB (IE £74-5 – TON.) = 24–0

PACKING — 1 SMALL T.C. CONTAINS 10 GROSS LOOSE

175/LARGE C. ; 120/SMALL ; 12/TC

Item	Cost
1 SMALL TC	3–0
4 STEEL BANDS	1–4
4 CLIPS	2
	4–6

IE 5½ PER GROSS — 6

TOTAL MATS = 24–6

DRAWN CUPS WT = 20 LBS/GR

LABOUR

Operation	Cost
1/ BLANK	9
2/ RAISE	1–3
3/ CLIP	1–0
4/ PIERCE BASE	1–3
5/ " SIDE	4–0
6/ TAP	8–0
7/ PACK (4 HRS 5/- TC)	3
	16–6

10½

MR [name struck out] SAID 10½D WITHOUT TOOLS GOT THE CONTRACT.
Order not received.

TOOLS: BLANK, RAISE, CLIP, PCE, PCE(4) — 130 ; TAP(4) 15 ; DEVMT. 10 ; £155

4½ L = 74–3
M = 24–6
¼ M = 6–3
105–0 = 8¾ D EACH

PRICE WITHOUT TOOL COST ADDED

BUT STANDARD COST = 1/- SAY 10½D

TOOL AMORTISATION

$$\frac{£155}{12360} = \frac{37200^{D}}{12360} = 3^{D}$$

PRICE INCL TOOLS 1/1½ EACH INCL TOOLS...

GREENHOUSE HEATER - 'T' SHAPED CHIMNEY 17/5/69

MATERIALS

TINPLATE	1" UPRIGHT = 8 7/16 x 7. DURFX = 9 5/16 x 7 = 8/SHT 28 x 20 x 2X ie. 18 SHTS @ SAY 2/- SHT	36 - 0
	HORIZONTAL 14 x 9 5/16 = 4/SHT 28 x 20 x 2X ie. 36 SHTS @ 2/- SHT	72 - 0
POP RIVETS	4 GROSS @ 3/- GR. (ie 20/6 M)	12 - 0
MICA	2" x 2" x .004/.006 SQUARES @ 2/3 100 [illegible]	14 - 0
		134 - 0
	TOTAL MATLS =	11½ EACH

LABOUR

VERTICAL TUBE	SHEAR BLANK	7 - 6	
	PIERCE SIGHT HOLE FOLD & FLAT JOINS ROLL [illegible] SIGHT HOLE PIERCE TAGS 1ST PIERCE POP RIVET 2 PIERCE ROLL POP RIVET & [illegible] MICA DIMPLE	33 - 6	[illegible] ie [illegible] = 33/6 GR.
	SPOT WELD	2 - 6	
		43 - 6	
HORIZONTAL TUBE	SHEAR FOLD & FLAT 1 SIDE PIERCE CENTRE HOLE 1ST PIERCE POP RIVET 2ND " " ROLL POP RIVET WELD	8 OPS. [illegible] SAY [illegible] = 32/-	43 - 6 32 - 0 75 - 6
		SAY	6¼ EACH

4½ L = 2 - 4
M = 11½
¼ M = 3
3 - 6½

PRICES OF RECTANGULAR HEATERS 3/- 17/5/69

PACKED 6/2nd HAND CARTON UNASSEMBLED

DUPLEX	T 'SHAPE CHIMNEY FROM PAGE 1		3 - 6½
	TANK FROM PAGE 2.		9 - 10
	DUPLEX BURNER · 67/- DOZ =	5 - 7	
	DUPLEX WICKS 2 x 15/6 · 31/- GR =	2½	
		5 - 9½	
	ADD 25%	1 - 5½	7 - 3
	CARR 2¾ LBS @ 1¾d LB.		5
			21 - 0½
	AGENTS 5% COMMISSION		1 - 0½
	2½% DISCOUNT		6½
(incr - 1/-)			22 - 7½
	QUOTE 23/-		1
1 INCH	T 'SHAPE CHIMNEY FROM PAGE 1		3 - 6½
	TANK FROM PAGE 2		9 - 10½
	1 INCH BURNER 35/6 DOZ =	2 - 11½	
	WICK 8' LONG. SAY	1	
		3 - 0½	
	+25%	9	3 - 9½
	CARR FROM ABOVE		5
			17 - 7½
	AGENTS 5% COMMISSION		10½
	2½% DISCOUNT		5
(incr - 7d)			18 - 11
	QUOTE 19/6		

FOR BOXED SINGLY SEE OVERLEAF

SKIRTING BOARD GRIPPER CLIPS 3/3/69

MATLS

STEEL	2½ × 2⅜ × 0.030 × 144 × 0.28 = 7¼ LBS. DAVRO £46 WOOLLEY £47-10. = 5⅛d/LB. SAY 7½ LBS @ 5⅛d =	3 - 6
PLATE.	BRIGHT ZINC & CLEAR 35/- COLOURED 37/4 CWT = 4d LB. SAY 7 LBS @ 4d/LB	2 - 4
LEAFLET.	SAY 3M @ £3-5 M. = ¼d EACH 1 GR CLIPS =	1
CARTON	400/6 M FOR 2M. IE 4.8d EACH	5
		6 - 4

LABOUR

1/ CROP PEE & SLIT. 7d 5½
2/ RAGE 1-0 [illegible]
3/ PACK (AXLES/BOX DXIO) 8 15 RATE £2-6. = 5d day.
2 - 3.

SAY 2/6

4¼L = 11 - 3
M = 6 - 4
¼LM = 1 - 7
19 - 2 PER GR. = 13/4 PER 100

STD COST

P.P.	PACK
1-9	8
6/-	5/3.
·3.	·128
1.54	193
·46	·24 - £0.7 = 14 - 0

M = 6 - 8
D½/M = 10

14 - 0
21 - 6
6
1 GROSS = 22 - 0
= 15/3 PER 100

SAY 16/3 PER 100

TO COVER TOOLING 1/

Order received

TOOLS — SAY £130 2600/- / 1/- = 2300 SETS
ACTUAL COST (PRICE)
H. FLETCHER = 176 HOURS = 4 WEEKS = £100
MATLS 20 / 120 DEV £10 TOTAL £130 PRIME COST.
SAY REFUND ½ TOOL COST AFTER 2000 SETS.

Feb 1969

CABLE HOUSING ZUP.

9900 REQD.

STEEL

9900 = 70 GROSS

70 GROSS @ 33LBS = 21 CWT

+5% SCRAP 1¼

FOR OVER ROLLING 1¾

24 CWT

T.B. 35 LBS Tel quote £83.5.0 per ton for 24 CWT DELIVERY 4 WEEKS

COST 70 GROSS ON 24 CWT = [illegible] / 70 = 38 LBS/GR

38 LBS @ 8D/LB .. (38 LBS (74-5-0 TON)) 25-4

PACKING — PACKING AS OVER 8

ELECTRO TINNING — .0005" to 0.0003" 33-0

59-0

Say 60/-

LABOUR.

1/	BLANK	10
2/	RAISE	1-4
3/	CLIP	1-1
4/	PCE BASE	1-4
5/	" SIDE	4-3
6/	TAP	8-6
7/	PACK	4
		17-8

4½h = 80-0

M = 60-0

¼M = 15-0

155-0 = 1/1 EACH

STD COST

	PP	M/c	Pack
	8-10	8-6	4D
	6/-	5/6	5/3
LBS	1.47	1.55	.06
CLR	1.54	Say 1.54	1.93
£	2.26	2.4	.11

= £4.77

Cable Housing Cups

½ of Batch tinned .0005 to .0003 minimum

33/- gross Nett

Say £4.75 = 95-0

M = 60-0

2½%M = 7-6

162-6 = 1/1½ EACH

Say 1-1½ EACH

PLUS TOOLS £175 / 9900 = 4¼

Say 1-6 EACH

Order received

17-8 / [illegible] / 68 [illegible] 6 / 75-6

17/2/60

GREENHOUSE HEATERS – RECTANGULAR TANK

2/

MATERIALS.

TANK	HALL & LANE UNSOLDERED 2/1. ADD SAY 7½% = 2°	2 – 3
COLLAR.	REDMAN 5/- DOZ DURLEY (ABOUT 1° IS SAME PRICE.)	5
FILLER	22/6 + 5% GR BHS 866	2
SOLDER	1 GR = SAY 4 LBS + ½ LB TOP PLATE IE 4½ LBS @ 6/4 = 28/- GR	2½
PAINT	SAY 3/6 DOZ	3½
PACKING.	1 EGG CARTON @ 1/3 + 6 EGGS BOX @ 1/3 FOR 6 HEATERS	3
TILAGSTIE. HANDLE.	2 OFF 7¼ × 1¼ × 16. 4½ SHTS 28 × 22½ × 16 ... 4½ SHTS @ 2/1 =	¾
REINFORCING PLATE	24/SHT 30 × 21 × 2X IE 6 SHTS / GROSS 6 SHTS @ 2/4 = 14/-	1½
FEET	SAY 4 off @ 1/3 = 5/- SAY	½
	TOTAL MATLS EXCLUDING BURNER & WICK	3 – 9½

LABOUR

HANDLE	SHEAR	2 – 6
	FOLD	1 – 6
	FLAT	1 – 0
	RAISE	2 – 3
PLATE	CUT & RAISE	9
	PIERCE	1 – 0
	PLUNGE	9
	SPOT WELD COLLAR TO PLATE	3 – 0
	SPOT WELD PLATE TO TANK	7 – 6
	SOLDER. ASS'Y & TANK	105 – 0 = (28 in 4 hrs)
FEET	CUT & RAISE	8
	PACK	9 – 6
	SPRAY	21 – 6
		159 – 11 = 1/1½ each

4½ L = 5 – 1

M = 3 – 9½

¼ M = 11½

9 – 10 WITHOUT BURNER & WICK

Company $E._3$

This was one of the oldest of the engineering firms visited during the enquiry. It was first established in 1869 and was, therefore, celebrating its centenary in the current year. It was no longer owned by the descendants of the founder and there were no members of the family employed in the company. Ownership now rested entirely with the holding company of a large group of engineering firms and neither the Managing Director nor any of his colleagues held any shares in the company or its parent organisation. The Managing Director, who was an engineer, had been with the company for twenty-five years.

The company employed between 64 and 70 people, 25% of whom were females. The turnover in the previous financial year was approximately £200,000 yielding a return of 5.6% profit on turnover. This was rather lower than the profit objective of 10-12% set by the Managing Director which was incorporated in the budget presented to, and approved by the holding company. Long term objectives were said to be growth and improved profitability but the prospects for increasing capacity were limited because the parent company would not provide finance for development and the profit margin achieved was not sufficient to provide the additional cash required. Although these objectives were clear and explicit they were not issued in written form within the company.

The company had no proprietary products of its own and was exclusively concerned with producing press metal components to customer specification, mainly for manufacturers of motor vehicles, aircraft, and domestic appliances. These parts were produced on presses of up to 1000 tons so that the firm operated in both the 'light', and competitive, end of the market and in the 'heavy', and less competitive, sector. The materials used were steel, brass, phosphor bronze, aluminium and various alloys, and the ranges of products included radiator parts for commercial vehicles, hub steps, oil covers, lamp holders, brake pedals; rubber stamp mounts, transformer flanges, watering can roses, and parts for weighing and slicing machines.

There were many competitors in the light metal presswork market and the company had found it uneconomic to operate in this area so most of this kind of work was sub-contracted to three small local firms even though there was surplus capacity within the company on presses below 60 tons.

At the heavier end of the market the competition was less intense but still included

some large companies such as Rubery Owen Ltd. Fortunately the larger competitors appeared to be uninterested in small runs and consequently there was plenty of work for this company to do. It was reported that the company had had a good year in this area of activity and had been flooded with enquiries for heavy pressings. From February to June, for example, the company had received approximately 900 enquiries and had submitted quotations for about 50% of these. The proportion of orders received to quotations submitted was about 5% to 6% but this seemed sufficient to keep that part of the plant operating at a fairly high level.

The company's pricing policy was to charge what the market will stand and this was determined by the Managing Director with the approval of the parent Board of Directors. The actual decision making was normally done by the Commercial Manager who had authority to vary the profit margin on total cost from +10% to +25% about a norm of 15% to 17½%. Where there was some doubt about the particular kind of production technique to be used, or in a situation where there were abnormal circumstances present, the Managing Director was consulted before the quotation was issued. This was said to happen only once or twice per month. The M.D. said that on such occasions he had occasionally added a profit margin of up to +75% on total cost if he considered the job undesirable, and sometimes he had dropped the margin to +12% if the work was needed to fill unused capacity. He also indicated a preference for work with a high material content because this meant a higher profit margin to value added. Where appropriate, 50% of the estimated tooling cost was added to the quotation. This meant a joint ownership between supplier and customer of the tools for a particular item, and gave the supplier a significant advantage when further supplies were required.

The following three cost-price calculations show the variation in profit margin applied when the desirability of an order changes. Job A is the least desirable of the three and Job C the one most attractive to the company.

Job A. Order quantity 2000 units.

	s.	d	
Materials	144	2	per gross
Labour	12	6	,, ,,
Overheads + 300% (on labour)	37	6	,, ,,
	194	2	,, ,,
Agent's Commission	5	6	,, ,,
	199	8	,, ,,
Profit + 27½%	55	0	,, ,,
Price quoted	254	8	,, ,,

N.B. This was the smallest order size of the three examples and was not really wanted.

Job B. Order quantity 1500 units.

	s.	d.	
Materials	355	0	per gross
Labour	18	6	,, ,,
Overheads + 300% (on labour)	55	6	,, ,,
	429	0	,, ,,
Carriage and Agent's Commission	14	0	,, ,,
	443	0	,, ,,
Profit + 25%	110	9	,, ,,
Price quoted	553	9	,, ,,

Job C. Order quantity 10,000 units per annum

	s.	d	
Materials	32	0	per gross
Labour	9	6	,, ,,
Overheads + 300%	28	6	,, ,,
	70	0	,, ,,
Agent's Commission	2	4	,, ,,
	72	4	,, ,,
Profit + 20%	14	6	,, ,,
Price quoted	86	10	,, ,,

Conclusions

This was a well established wholly owned subsidiary of a large group of companies which operated in both sectors of the press metal component market. It preferred the less competitive sector and seemed not to worry a great deal if output fell below capacity in the lighter sector. There were no proprietary products and the company depended upon its customers to provide the specification and design details.

The determination of objectives and policies appeared to be left very much to the Managing Director and his colleagues so long as an 'adequate' profit margin was achieved. It was also apparent that very little financial assistance was available from the parent company and, since the profit margin was hardly sufficient to provide a reserve of liquid capital, the prospects for expansion seemed limited.

There was no conscious attempt to determine optimum output level by equating marginal cost and marginal revenue. However the costing process was related to the total quantity ordered but calculated and quoted per gross in a way which permitted the M.D. and the Commercial Manager to see the marginal order cost. In this case the marginal order cost was, for all practical purposes, the total of material and labour costs because quotations were for future production and delivery and labour was, therefore, an avoidable cost within this time scale. The monopolistic situation in the heavy sector of the market enabled the company to make a reasonable profit and maintain a high turnover level without worrying too much about the more competitive, and less satisfactory position in the other sector. The real objective thus appeared to be to maintain the status quo and there was no evidence of motivation to increase turnover and profitability by adjusting price or any other variable in the marketing mix.

Company $E_{.4}$

This was one of three companies owned by the Chairman and members of his family. In this particular case majority ownership and voting control rested with the Chairman who also, in practice, was the chief executive. The company was formed in 1962 to manufacture brass products for the plumbing and heating and ventilating market. This complemented the activities of the other two companies which were involved in brass foundry work and machine tool manufacture respectively.

The management structure of the company consisted of the Chairman, a General Manager, a Works Manager, the Company Secretary, and a number of supervisors. The Chairman was a brass foundry engineer by training and maintained an active interest in that side of the business. The Company Secretary was the Chairman's sister and the General Manager was his son.

The company employed 70 people, including some female press operators, and had a turnover of approximately £275,000 in the financial year ending March 1969.

Company objectives and policies did not appear in written form except in the minutes of the Board of directors' meetings. Although the Chairman did not feel it was necessary for all members of management to have a complete financial picture of the company's operations he did make clear his awareness of the need to use modern management techniques. In this latter context the company had already received some practical assistance from the Small Business Centre at the University of Aston in Birmingham. The long term objectives of the company were stated to be 'growth' and 'profitability'. In the short term a growth rate of 10% per annum in turnover was aimed at accompanied by a profit margin of at least 7%, after tax, on capital employed. This profit margin was orginally stated in terms of total revenue but the costing system subsequently revealed a total profit target of £15,000 on capital employed of approximately £130,000 and a turnover target of £300,000. The percentage yield, after tax, on turnover was obviously much lower than the figure quoted whereas relating the target profit to capital employed provided roughly the right margin.

Although the firm concentrated upon brass components for hydraulic and air compression systems it was still operating at the lighter end of the metal pressings industry and was thus in the most competitive part of the market. Competitors included a few large organisations likeThe Delta Metal Co. Ltd., and Imperial Metal Industries Ltd. and a much

larger number of smaller companies. The customer pattern was similar but with rather more emphasis on the larger company. Among the larger customers were the major motor vehicle producers, public utility corporations, and sanitary ware manufacturers. Smaller customers included a number of hydraulic valve manufacturers and plumbers' merchants.

Output from the firm had been maintained at near capacity level during the past year with the order book showing approximately 20 weeks requirements for each cost centre. Recently, however, the picture had changed and while output remained at a fairly 'high' level the order book position in some lines had been reduced to 1½ weeks cover. Enquiries were received at an average rate of about 12 per working day but the Chairman indicated that they did not obtain as high a proportion of orders as they would like. Products which the company were not able to produce were subcontracted to one or other of the family concerns, but rarely was work placed outside the group.

The company's price policy was determined, and implemented, by the Chairman. Explicitly the policy was to charge what the market would stand but in a very competitive market the room for manoeuvre was small. All enquiries were considered initially by the Chairman who decided whether the company was able and interested to produce the article concerned. The enquiry, together with some suggestions about the particular engineering processes appropriate was passed to the Estimator who then calculated the standard price according to the system designed by the outside consultants some two years ago. The basis of the rates applied for the various cost centres is as follows.

ANALYSIS OF COST CENTRE RATES

			1	2	3	4	5	6	7	Total
(a)	Cost Centre		1	2	3	4	5	6	7	Total
(b)	Original capital	£	11762	6751	2756	4850	4337	8242	7854	48552
(c)	b) as % of total		25.8	14.8	6.0	8.5	9.5	18.2	17.2	
(d)	Direct costs	£	3176	2675	2276	2385	1367	2148	2770	16797
(e)	Hours per annum		2000	2000	2000	2000	5000	5000	12000	30000
(f)	Direct rate per hour	£	1.588	1.338	1.138	1.193	.273	.430	.430	
(g)	Direct labour rate per hour	£	.525	.525	.525	.525	.425	.270	.270	
(h)	General contribution to fixed overheads		7450	5041	3102	3630	6350	8405	14356	48514
(i)	General contribution rate per hour i.e. h ÷ e	£	3.725	2.520	1.551	1.815	1.306	1.681	1.197	
(j)	Profit	£	2300	1559	958	1120	2020	2595	4448	15000
(k)	Profit rate per hour i.e. j ÷ e	£	1.15	.780	.479	.560	.404	.519	.371	
(m)	Total rate per hour	£	6.988	5.163	3.693	4.093	2.408	2.9	2.069	

These rates were calculated when the system was first introduced two years ago and have not been amended since. However, to compensate for changes in the actual wage rates paid, the process time for a particular operation is changed instead of the rate itself.

Six examples of quotations made, and orders subsequently received, are given below.

Order	A			B			C			D			E			F		
Estimated cost per gross	£	s	d	£	s	d	£	s	d	£	s	d	£	s	d	£	s	d
Tool costs		10	6		10	6		13	3		8	0		6	0		8	3
Setting costs		3	8		14	9		5	10		2	1		5	2		2	2
Material costs (less reclaim)	6	17	7	3	9	10	7	18	4	3	8	5	3	13	4	6	10	10
Labour	1	12	11	2	9	2	3	1	5	1	4	9	1	3	9	6	0	7
Standard Selling Price	9	4	8	7	4	3	11	18	10	5	3	3	5	8	3	13	1	10
Actual Selling Price	8	19	0	5	12	4	11	12	4	6	2	4	5	9	2	14	0	7
Variance	–	5	8	1	11	11		6	6 +		19	1 +			11 +		18	9
Variance as % of standard selling price		–3%			–22%			–3%			+18%			+1%			+7%	
Contribution		17	7		9	6	1	16	2	1	8	8		17	2	5	8	3

The actual selling price in each of the above examples, and indeed in all quotations sent out, was determined by the Chairman after a subjective consideration of what his competitor was charging (where this was available) and what he thought the customer would stand. In each case there was a variation from the standard selling price. The variations shown ranged from –22% to +18% on the standard selling price although the cumulative variance of –5/4d was negligible on a total sales value of £52.

Conclusions

The Chairman described the market in which the firm operated as "very competitive". Competition consisted of a few very large firms and a much larger number of smaller firms but, because of the differentiated nature of the product, the company still had some room to manoeuvre in its pricing decisions. Customers too fell into the same general category of a few large organisations and a larger number of smaller firms.

The Chairman of the company was obviously the entrepreneurial type decision maker but exhibited some signs of confusion over the 'rationalised' financial objectives incorporated in the accounting system. There was also an implied lack of understanding of the new system in the decision to vary the processing time for particular units rather than the rate per hour to account for changes in actual wage rates. This confusion did not affect the price decision making process which suggests that the basic objective was clearly understood to be to make as much profit as possible.

The costing system identifies the contribution, including profit, for each order. This enables the chairman to determine the accounting marginal order cost which is not, of course, the same as the economic marginal cost. Although in these examples it was not possible to identify the profit margin as a separate item it was clear that in Order B the profit was negative and that the quotation had been made below estimated total cost. By implication the Chairman seemed to regard the marginal order cost as being the lowest possible level at which an order might be quoted. The main use of the contribution figure seemed to be to highlight, in retrospect, significant deviations in actual cost from the estimated cost. If the actual contribution was appreciably below the estimated figure the Chairman asked for a cost investigation to find the explanation.

The state of demand was 'felt' through the order book position, the number of enquiries received, and information provided by the three sales representatives. Information about competitors' prices, particularly the large firms, was obtained whenever possible and was seen to indicate the 'going market rate'. This competitive level was more relevant when the market was depressed and the big companies prepared to accept smaller runs in order to fill their capacity. In buoyant conditions the smaller suppliers were less bothered by this factor but were still aware of the spare capacity at the lighter end of the industry. Even so there were occassions when this company had effectively restricted its output by quoting a very high price

for an undesirable order.

In this case there were no obvious discrepancies between price policy and price decision making because the one person was responsible for both. The process of price, and thus output, determination was becoming more formalised but still retained the sensitivity adjustment provided by the Chairman. The Chairman was acutely aware of the change in the order book position for some processes and was now taking this into consideration in pricing. He did, however, also comment upon the acceleration factor present in a reducing, or lengthening, order position. Nevertheless he seemed to assume that a reduction in orders would automatically result in an increase in price competition within the market.

Company $E._5$

This was a private limited liability company registered in 1937 by the father of the present Managing Director. The firm was originally engaged in woodworking but switched to engineering during the war in order to remain in business. The knowledge and experience gained during that period formed the basis for the company's post war development and its present range of activities.

The present Managing Director inherited the major portion of the share capital at the age of 21 years when his father died in 1961. He immediately took over as chief executive and has occupied that position ever since. The remaining shares are held by the wife of the founder and mother of the present M.D. By training the M.D. is an engineer although he made it clear during the interview that his background was practical rather than academic. He has, however, attended a number of short courses on management techniques and the firm is a member of the Small Business Centre at the University of Aston.

The Managing Director, in addition to being the chief executive, was also solely responsible for the sales function in the company. The other executive functions were divided between two senior managers, one of whom was responsible for accounting procedures and production, and the other for warehousing and transport. There were also a number of supervisors and chargehands who were responsible for the operating activities at shop floor level.

At the time of the interview in September 1969 the company employed 75 people of whom approximately one half were females. Turnover for the financial year ending August 1969 was estimated at £175,000 although the final figures had not then been determined. This was an improvement of 400% over the figure of £35,000 obtained in 1961 when the present M.D. inherited control. During the same period the ratio of general overheads to sales had been reduced from 29% to 21% an improvement of which the Managing Director was very proud.

The company's long term objectives were stated to be 'growth' and 'financial stability' but actual physical expansion was proving a great problem. The company had been unable to obtain planning permission to develop additional engineering facilities locally though a suggestion had been made that accommodation could be made available in a Development Area. This was not a feasible proposition and the M.D. was thus "doing the best we can".

The economic situation at that moment was not very bright and the company's objectives for the current year were to maintain turnover at £175,000 and to obtain a return of

20%, before tax, on a capital employed of £85,000. This target of £17,000 profit represented a return of approximately 10% on turnover. At this level of output the firm was said to be operating at 75% of its production capacity. Neither objectives nor policies were issued in written form and were communicated piecemeal to other executives by the M.D. when he considered it necessary.

Unlike most of the other metal working firms visited this firm relied exclusively upon subcontracted engineering work and had no product lines of its own. Product specifications were normally provided by the customer although on rare occasions the M.D. had been invited to attend a product design meeting at a customer's factory to assist in the development of a specification for a product which his firm subsequently manufactured. In total the company had around 80 customers, mostly in the vehicle and electronics industries, but 90% of its turnover came from about 10 of these. 75% of its orders were repeats of jobs done previously. Thus a high proportion, 50%, of orders received came "on trust", without a quotation being made. Orders in hand at the time of the visit amounted to six months full time production but because many of the orders were spread over a longer time period the company was still quoting 6/8 weekly delivery for most enquiries. Normal production involved one day shift working 45 hours per week.

The market for this particular company's output was seen to be very competitive but showed little sign of seasonal fluctuations. All the customers were located in the Midlands area and personal contact with each of these was maintained by the M.D. himself. These personal relationships were considered to be very important in this industry. The M.D. expressed the opinion that there was a certain amount of "unprofessional conduct" but this was mostly confined to the older age groups of individuals; the younger men adopted a much more professional approach. The comment was also made that prices of the smaller firms run by older men tended to be rather erratic because they were not calculated properly.

The company's own pricing policy was to charge 20% on the labour cost "except when I get a whisper of what our competitor is charging and then I split the difference". The M.D. illustrated this point by reference to a product which the customer had previously paid 7d each for whereas he could now make it for 4d. The company then quoted the customer 5¼d each and secured the order. Occasionally the M.D. consulted the Production Manager about the quotation to be given for a particular item. If the Production Manager felt an abnormally large

margin could be added, he was asked to contact the customer and quote for the job so that, if the customer objected, the M.D. could intervene and reduce the quotation without losing prestige. Deviations of this kind were said to have occurred only in approximately 5% of the jobs quoted.

One illustration of an actual quotation is given below.

Material Cost	
4lbs @ 5/- per lb ½" brass rod	20.00 sh. per 100
Labour	
Production – auto	
200 per hr @ 16/- drilling	8.00 „ „ „
700 per hr @ 14/-	2.00 „ „ „
(includes 125% on labour cost for overhead expenses)	30.00 „ „ „
Profit margin 20% on labour cost	2.00 „ „ „
Standard selling price	32.00 „ „ „
Actual price quoted	42.00

The actual selling price includes a profit margin five times greater than that included in the budget.

The firm had its own transport for delivery locally but for deliveries outside Birmingham the company used Collins or British Road Services and debited the cost to the customer.

The basis of the machine hour rate used in calculating labour costs for the various departments was as follows.

	Weekly rate
General overheads divided equally over 8 departments (and checked monthly).	___________
Labour costs in the department concerned + 10% to allow for increases.	___________
Direct overheads in the department e.g. paint, etc.	___________
Depreciation of machinery in the department at a flat rate over 10 years.	___________
	___________
Total	___________

This total cost figure was then divided by 2200, the estimated product hours based on a 45 hour working week, giving a composite machine hour rate for use in the cost estimate. The machine hour rate was recalculated every three months, or less if necessary, because it was not possible to predict further ahead.

Conclusions

The market position for this particular firm was rather different and, perhaps, more precarious than for some of its competitors. The larger customers had engineering departments of their own so that a reduction in output would cause an immediate drop in work subcontracted. There was the additional handicap that this company had no products of its own to concentrate upon when demand for its engineering service work fell.

Company objectives, policies, and most major decisions were made by the Managing Director and communicated on an ad hoc basis when he felt it was necessary. This, together with the way in which the Production Manager was 'used' to test the market, suggested that the M.D. was making a positive effort to retain as much personal control of the organisation as possible and to preserve his image as the successful but honest broker.

The pricing policy was effectively to use a standard mark up formula unless there was sufficient information available about competition or the customer, when quite substantial variations were introduced. Despite the fact that demand was somewhat depressed and prices more competitive, the M.D. said that the method of calculating depreciation on a flat rate over ten years was now unsatisfactory and he was considering the possibility of reducing the period to five years. No mention was made of the possible effect upon price, and subsequently on demand.

The company did not use the traditional economic marginal cost approach to pricing nor that of the contemporary management accountant. It did, however, calculate the absorption, or total, cost of the marginal order and used that as the basis upon which to calculate price. The standard mark up included the normal profit margin but this was modified whenever the opportunity was seen to occur. One of the dominant objectives of the company was to expand output to capacity level but there were occasions when the firm quoted a ridiculously high price against an enquiry which was considered undesirable.

Company $E_{.6}$

This company was first registered as a partnership in 1919 and became a private limited company in 1922. It continued trading in its original form until a few years before the second World War when one of the partners was forced to retire from active life because of ill health. Shortly afterwards the remaining partner took over his colleague's shares and, although some of these were later redistributed among the remaining shareholders and to his son, he thus became the major shareholder. The son subsequently replaced his father as Managing Director and while the father still occupies the chair at meetings of the Board of Directors there appeared to be very little interference in the day to day activities of the company. Both the Managing Director and Chairman of this firm had been trained as engineers.

There were three senior executives responsible to the Managing Director, one was the Works Manager, another the Commercial Manager, and the third the Accountant who had only recently joined the company. At the time of the visit the company employed 85 people most of whom were female machine operators. Turnover in the financial year ending in June 1969 had been approximately £380,000, 20% of which had been exported. Profit for the previous year had amounted to £32,500 representing a margin of 8½%, before tax, on turnover and 12%, before tax, on capital employed of £270,000. At this level of output the company was said to be utilising 90% of its production capacity.

Objectives and policies in the company were determined by the M.D. but were not issued in written form. The long term objective seemed to be a desire to be "taken over in a few years". Short term objectives were to make a larger turnover, and profit, than in the previous year. The M.D. explained that the factory was only a single storey building and that the company owned a plot of land alongside the factory as large as that already built upon so there was plenty of scope for expansion.

The company's products included over 800 different items of electrical conduit fittings and accessories. The majority of these were manufactured by the firm but a number of items were 'factored'. Despite the wide range of items the M.D. explained that he was currently negotiating with a foreign manufacturer to obtain a licence to manufacture a new line of electrical accessories in this country. (He saw this purchase of manufacturing rights as the equivalent of spending money on research and development within his own

organisation). In addition to the catalogue lines the company also undertook the production of 'special' items made to customer specification.

Numerically, the largest single group of customers in the home market were the wholesalers. Unfortunately there seemed to be very little loyalty to a particular supplier of this type of product and this company, along with other small companies, was obliged to move 'down' the wholesale market as one of the larger competitors offered bigger discounts to attract the trade of the larger distribution outlets. This process was a continuous one and the smaller manufacturers were thus frequently obliged to 'move on' and, in turn, to cause their lesser competitors to do the same. Thus although the number of customers in this group was fairly large the organisations themselves were relatively small. Some discrimination was made among wholesalers on what appeared to be quite subjective grounds. A discount of 35% off list price was offered to the 'smaller' wholesaler and 45% off list price for the more important ones. If 'pushed', however, the company would offer an additional 2½% to the second group. Other customers included prefabricated building contractors, local authority building departments, and public corporations such as the Post Office.

There were a few large competitors such as Simplex Ltd. and G.E.C. Ltd., some medium sized companies ("like us") and some smaller firms. Simplex appear to be the price leaders in this industry and constituted a major problem because they were always undercutting the market. The standard practice seemed to be to obtain the Simplex price list when prices changed, as they had done recently, and to follow the pattern set by the larger company. The recent change had been an increase of between 5% and 7% to cover increased material and labour costs but the amount involved was not considered to be sufficient and this was seen as a further attempt to expand their share of the market. The M.D. commented that the professional marketing people in the big companies did not seem to care about making a profit and were concerned only to increase their turnover. Other manufacturers of about the same size in the industry were not seen to be very competitive and the smaller companies were known to be more expensive and, hence, less of a problem.

At the time of the interview the formulation of pricing policy and the actual price decision making was carried out by the M.D. This meant that there had been no explicit statement of policy because it had been considered unnecessary. However, price decision making was about to be delegated to the newly arrived accountant and the M.D. was currently engaged

in formalising his policy on pricing. In this instance the policy was quite clearly stated to be "to get as much as we can". The market for items included in the catalogue was extremely competitive, nevertheless it was still possible for the company to make up on the less popular items what it sacrificed on the popular ones. The following price list for 'factored' items illustrated how different profit margins were achieved within a given range of products.

Table 1

Factored items in shillings per 100 feet

Flexible metallic tubing	Bought out cost	Lowest selling price List-25%	Net profit (before tax) on sales %
Size 1	20.58	30.62	11.5
2	16.66	30.62	28.5
3	21.33	31.12	9.9
4	23.42	31.25	1.5
5	24.00	32.00	1.4
6	26.50	35.31	1.3
7	32.33	43.07	1.2
8	42.66	56.87	1.4
9	53.16	70.88	1.3
10	71.33	95.06	1.3
11	109.33	145.75	1.3
12	165.58	244.50	11.1

N.B. Net profit (before tax) on sales was calculated after deducting approximately 31½% on the boughtout' cost for handling and distribution charges.

The range of net profit before tax on the selling price of factored goods extended from +25% to −10%. Negative profit margins appeared at that time because prices of brass products had not been altered to cover the increased cost of copper. The whole range of catalogue prices was under review for the fourth time within a period of twelve months and it was hoped that some of the major anomalies would be eliminated and the average profit margin increased by about 5%.

The company's costing and price procedure for 'special' items was illustrated in the following example.

Product 59509 ES. Box 5/ST 5.1/16"

Material costs in shillings per 00

½ Box shell	49.260
Sliding steel lug	6.000
Enamel rack	25.000
Screw	0.821
	81.081

Labour costs in pence per 00.

Raise	13.00
Weld	36.00
Pierce 1	21.50
Pierce 2	12.00
Assemble	48.00
Pierce 3	8.50
Plunge	8.50
Tap	8.50
Assemble	24.00
Tape	12.00
Shear	12.00
Tap	15.00
Tape	30.00
	250.00

or 20.833/- per '00.

	Sh. per 00
Materials	81.081
Labour	20.833
+400% o/heads	83.332
Factory Cost	185.246
Commercial on-cost (+ 31½%)	58.354
Total Cost	243.600
=	24/4d per 10
Profit margin + 10%	2/5d
Selling Price	26/9d per 10

In this case the profit margin represented +9% on selling price and approximately +13% on value added. Extra operations were required by the customer on part of this order and the additional charges were calculated in the following way.

Labour + 400% overheads	1.083 shillings per '00
+ 400% overheads	4.332
Commercial on-cost + 31½%	1.705
Total Cost	7.120
Profit margin + 68%	4.880
	12.000/- per '00

The profit margin on the items requiring 'extra' work was thus much larger than that on the standard items. It should be noted, however, that in all calculations shown above the assessment of labour and material costs was on an historical basis, i.e. there was no forward cost budgeting incorporated in the costing system. The Accountant indicated that he had intended to identify the main cost centre and develop a costing system which took into account anticipated increases in labour costs but he had been unable to find time to do this so far.

Conclusions

This was a second generation company where, for all practical purposes, ownership and managerial control rested with the chief executive. It was interesting to find that although the company was expanding steadily year by year and was achieving a reasonable profit on capital employed, the M.D. expressed a desire to be taken over within the next few years. At the time of the visit the M.D. was approximately 46 years old.

The market for conduit fittings and accessories was a very competitive one and the margin of profit on catalogue lines very small. The market for special items which were made to customers' specifications was less competitive and the margins somewhat larger. In the former market the greatest competition camefrom the very large manaufacturers who were constantly seeking to expand their market by acquiring additional distribution outlets and by cutting prices. In the latter market competition came mainly from small and medium sized companies who did not appear to be any more efficient than this company, indeed many of the smaller competitors were known to be less efficient and, therefore, more expensive than this organisation.

Pricing policy in this company had been determined, and implemented, by the Managing Director. The recruitment of a company accountant had provided an opportunity for the M.D. to delegate some of the price decision making and this was being considered at the time of the enquiry. So far the M.D. had not decided what specific groups of products would be handled by the Accountant but felt that even when this was done it would be necessary to keep a watching brief until the person concerned became acquainted with the market factors involved. It seemed likely that the first items to be delegated would be catalogue lines where prices were based upon those of the major competitor. The relationships between items, the price 'lining', had been established and the basic responsibility would be to match the competitor's

to match the competitor's price changes. It was unlikely that the pricing, as distinct from the costing, of 'specials' would be delegated because this required a knowledge of products, customers, and competition which only the M.D. could provide.

The costing system identified material and labour costs for sets of 10, or multiples of 10, units, i.e., in the same manner in which quotations and price lists were issued. This obscured the minimum production batch size for items produced in the firm itself and the minimum economic order quantity for items factored but was somewhat closer to the economic concept of marginal cost than in firms which were concerned mainly with jobbing production. The M.D. appeared to attach little significance to the marginal cost of such products but seemed to use the total cost level as his minimum price datum. Certain items in the catalogue appeared to be more popular, and competitive, than others and the demand was seen to be almost perfectly elastic. Other items were less popular, and there was less competition among suppliers for these orders so that some price discrimination was possible and exploited.

Company E_7

This was a private limited liability company first registered in 1800 but purchased by the present Chairman in 1936. The shareholders comprised seven executive directors and three non-executive directors who held the controlling interest but were also relatives of the Chairman's. Managerial control was exercised through an executive board, but until the current Managing Director had taken over in May 1969 these meetings were only a formality. The Managing Director, who was also the Chairman's son-in-law, illustrated this situation by stating that the Technical Director did not know the previous Managing Director's salary, and even in July 1969 only the Chairman, the M.D., and the Accountant knew the current M.D.'s salary. This situation he intended to change but was not acting precipitously. By training the Managing Director was a cost estimator.

The company employed 90 people, 50 of whom were females. Turnover during the financial year to 31st April 1969 was £250,000. Profit, before tax, for the same period was £26,000 compared with £9000 in the previous year and this increase in profit was attributed mainly to improved costing procedures.

The long term objectives of the company were said to be growth and profitability. Until recently these objectives had not been made clear to all members of management but the M.D. was currently preparing a four year plan which would remedy this situation. Commenting upon the long term objectives the M.D. stated that he thought "non-owners, i.e. professional managers, are more motivated to increase profitability than if it was their own investment". This was, to some extent, a rationalisation of his own position because he held no shares in the company. company.

The short term financial objective for the current year was 25% return on capital employed of £100,000 or approximately 10%, before tax, on turnover. To assist in the clarification, and thus achievement, of this objective, the M.D. was developing a system of Management by Objectives. Within this system the supervisors would each have a budget for labour and material costs and were required to explain variances which arose. Thus while company objectives had been rather vague and unwritten in the past there was some evidence that this would shortly be changed.

This company was involved in five main kinds of activities which are described overleaf.

(a) Press metal working

This activity was based upon the company's original interest in making thimbles. For many years the company enjoyed a semi monopolistic position for the supply of thimbles in the U.K., but this was eventually undermined by the advent of plastic thimbles and it had been necessary to develop new products. The current range still included thimbles but also ferrules, metal caps of various kinds, metal strainers, and other similar products which involved deep drawing operations with round shapes.

One of the major customers for thimbles in the past had been Woolworth but the emergence of a plastic substitute had caused this customer to switch to the more economical product and, therefore, an alternative supplier. The company had, however, continued to supply many local education authorities with thimbles for schools, and there was an interesting seasonal demand for Halloween trinkets which reached a peak in August/September in Scotland. But the market for the broader range of articles was mainly in and around, Birmingham.

"The skill involved in cold deep drawing is still comparatively rare and thus", the M.D. said, "there is not a great deal of competition". This did not mean that the Market was open to exploitation because there were now many plastic substitutes on the market. However although there was not a great deal of profit to be made in this field the volume of turnover provided an element of stability and helped to meet a significant portion of the company's overhead costs.

(b) **Metal blanking, piercing and bending.**

This type of work was still being undertaken because the company had a number of machines on the premises and it was reluctant to relinquish a traditional line of activity. This also was a very competitive market which showed little significant profit.

(c) **Electrical component assemblies.**

This activity developed out of the company's wartime experience and the establishment of an A.I.D. unit within the factory. The activity had been continued and, although the number of items handled was small, the profitability was relatively high. Competition was restricted because it required Government approval to handle many of the products concerned.

(d) Bar turning work

Originally the capstan lathes had been required for trimming metal off deep drawn drawn items. Later the trimming process was incorporated at the deep drawing stage and once again the machines were available but not used. So the company accepted work which could be carried out on these machines. There were many small firms in this particular type of engineering and the market was thus very competitive.

(e) Masonry fixing clamps

This type of product was sold mainly to the building and construction industry and accounted for approximately 30% of the turnover. The Managing Director revealed that the firm had not intended to develop this item and only went into it by accident about 7 years ago. It was quite a profitable line and competition was rather restricted.

Pricing Policy

Price policy, which was determined by the M.D., was to charge what the market would stand. All directors of the company involved in pricing decisions were allowed to use their discretion in setting profit margins, but the larger orders were automatically referred to the Managing Director for final adjustment. The procedure for setting prices, as outlined by the M.D. was as follows. "Selling prices are calculated from a forward budget of profit adjusted for competition in the knowledge of marginal cost and a knowledge of the particular customer and market situation". In exploiting a particular situation the person concerned had very much in mind the possible long term effect which might result. Information about the customer and about competitors' prices was collected at every opportunity.

The M.D. provided three examples of pricing which he felt would be interesting and appended the following comments.

"Acknowledgement for Part No. AB 23.

This is a very large order with a sales value of almost £4000 and you may be surprised to see that we are selling with a considerable "plus variance" on sales. Further examination however, will show that from a standard selling price of 32/6d the contribution obtained is only 10/4d. This indicates a very high prime cost element which of course on this size order requires a high degree of our liquid assets tied up. In view of this, and with a little knowledge of our sole competitors price structure, we were able to obtain a more acceptable contribution from the sales value by increasing our price by 7/-d over "standard".

Acknowledgement for Part No. JC 2

This job shows complete reversal of the position in the above example. We were faced with extremely keen competition on a job that had a very high contribution content in its standard price. Under duress, therefore, we accepted the order at a very high "minus variance" because we were still able to obtain a reasonable percentage contribution from sales. A very interesting point with this job occurred approximately a month ago, when we were being chased for delivery by our customer as well as another customer for a more lucrative order. Both components could only be processed through one single production unit and we made a decision to give "JC2" second place purely on a price basis. One wonders, therefore, whether the buyer of this part was as clever as appeared when he first placed his order. The losses he suffered through our decision to manufacture another client's work first, far outweighed his price savings on the component.

Acknowledgement for Part No. TJ 33

We have selected this job to illustrate our policy of maintaining a plus variance wherever possible, even in the face of additional prime costs. Previous orders for Part No. TJ33 were accepted at a price below 42/9d per 100 and one could argue that we could continue to accept orders at prices as low as 27/9d per 100 being our standard price. If we were forced into that position however, we would be unable to carry jobs such as JC 2 mentioned in the example above".

Conclusion

This was an old established engineering firm with a number of different product lines. Management was not directly related to ownership although many of the executive directors did hold some shares in the company. The Managing Director was not one of these and rationalised his position by arguing that motivation to increased profitability was greater in a professional manager than in the owner.

The determination and communication of objectives and policies was being formalised and it was stated that profitability had already been increased appreciable because of the resultant improvement in the costing process.

The market for press metal products, with which this investigation was primarily concerned was very competitive. This was so because this company, like many others visited,

was at the lighter end of the market.

The comment made above concerning the procedure for setting prices shows that the M.D. was aware of the relationship between marginal cost and marginal revenue. His explanation about the quotation for J.C.2 reveals also that he was prepared to go below total cost. In this case, since the quotation was for future production and delivery, the accounting 'marginal cost' may be regarded as the equivalent of the economist's marginal cost and thus there appeared to be a movement towards an equilibrium position in order to achieve optimum output.

ACKNOWLEDGEMENT OF ORDER

PRODUCTION CONTROL COPY

W.O. No. A 0500

T. J. PART N[o]
AB23

	DELIVER TO:	

	DATE OF ORDER	DATE ACKNOWLEDGED
WT.1139	23.4.69	30.4.69

	DRAWING No.
01-123	

	FINISH
Thermostat Cups	Clean

	PRICE	TOOL CHARGE
2,000,000	39/6d per 100	

[RE]QUIRED	DELIVERY PROMISED
To schedule	As requested

[INST]RUCTIONS

[TE]RMS	PAYMENT TERMS
Carriage paid	Strictly nett

[P]RICE	QUANTITY OUTSTANDING	QUANTITY IN STOCK	W.I.P.
32/6d	-	-	-

N	MATERIAL	SIZE & SPECIFICATION	WEIGHT/100
10/4d			

VARIANCE	ALTERNATIVE MATERIAL	QUANTITY LOADED	PERIOD
+ 7/-d			

[M]ATL. PRICE	MATERIAL WEIGHT REQUIRED	MATERIAL DELIVERY REQUIRED
£650		

[FI]NISHING PRICE	SUPPLIER	DATE DUE
NIL		

ACKNOWLEDGEMENT OF ORDER

PRODUCTION CONTROL COPY

W.O. No. A 0553

T. J. PART N
JC2

RELEASE AGAINST BLANKET ORDER

	DELIVER TO:
Release against 36106	DATE OF ~~ORDER~~ Release: 27.5.69 — DATE ACKNOWLEDGED:
	DRAWING No.: SH5/360/2
Oil Pick up Tubes	FINISH: Dipped Shell Ensis 254.
Additional 9,000	PRICE: 15/8d per 100 — TOOL CHARGE:
QUIRED now reads:- rrears 7000 Aug (tentative) 0.6.69 7000 Sep (") 3.7.69 7000 Oct (")	DELIVERY PROMISED Up to August as requested September requirement - end October

TRUCTIONS

Last despatch taken into consideration 4975 21.5.69

RMS	PAYMENT TERMS
arriage paid per road	Strictly nett

RICE	QUANTITY OUTSTANDING	QUANTITY IN STOCK	W.I.P. (Metal)	
per 100	33,150	NIL	34,500 & 60,000	
ON	MATERIAL	SIZE & SPECIFICATION		WEIGHT/100
per 100				
VARIANCE	ALTERNATIVE MATERIAL		QUANTITY LOADED	PERIOD
d per 100				
ATL. PRICE	MATERIAL WEIGHT REQUIRED		MATERIAL DELIVERY REQUIRED	
Od per ton				
NISHING PRICE	SUPPLIER		DATE DUE	
NIL				

ACKNOWLEDGEMENT OF ORDER

PRODUCTION CONTROL COPY

W.O. No. A 0568

T. J. PART No
TJ 33

DELIVER TO:

S.76282

DATE OF ORDER
5.6.69

DATE ACKNOWLEDGED
1.7.69

DRAWING No.
69218

Tube Support Boxes

FINISH
Galvanised

10,000

PRICE
42/9d per 100

TOOL CHARGE

QUIRED
July 1969

DELIVERY PROMISED
End August

TRUCTIONS

Please note small price increase due entirely to steel price rise.

RMS
Carriage paid

PAYMENT TERMS
Strictly nett.

RICE	QUANTITY OUTSTANDING	QUANTITY IN STOCK	W.I.P.
9d	NIL	NIL	NIL

ON	MATERIAL	SIZE & SPECIFICATION	WEIGHT/100
[illegible]			

VARIANCE	ALTERNATIVE MATERIAL	QUANTITY LOADED	PERIOD
/-d			

ATL. PRICE	MATERIAL WEIGHT REQUIRED	MATERIAL DELIVERY REQUIRED
9d		

NISHING PRICE	SUPPLIER	DATE DUE
cwt.		

Company E_8

This firm was first established by the brother of the present Managing Director in 1934. In the early stages the company was mainly concerned with pressed metal work but later, in 1948, it acquired a small steel spring manufacturing concern which was located in adjacent premises. It was at this point that the present Managing Director became involved as a shareholder and as General Manager for the new acquisition. By 1961 the present M.D. was sufficiently well established to buy out his brother's share in the firm and thus to become the majority share owner and chief executive at the same time. Since that time a further unit had been acquired in the north of England which produced metal and plastic mouldings. Both the original owner and the present one were trained as engineers and were very much concerned with the engineering side of the business.

In 1966 the company employed approximately 140 people but since that time business had gradually diminished and at the time visited the number of employees had fallen to 115. The total turnover for all three factory units had been about £250,000 in the last financial year and the company had actually made a slight loss. This was attributed to the fact that the pricing system had not been adjusted to cover increases in material and labout costs.

The original profit objective had been to obtain a margin of 10% before tax on turnover or 12½% on total cost. In order to achieve this the direct labour rate in each cost centre was multiplied by 366%, i.e. by 3.66 . Since many quotations were made in units of 100 articles the adjusted labour cost per hundred was obtained by referring to the attached 'Selling Price Rates' sheet which incorporates the output rate per hour. Because of the unsatisfactory profit margin in the previous year the M.D. had now "reverted to our old formula of labour costs x 450%". This, it appeared, meant that the new profit target was 15% on turnover. The implication was, of course, that at least it would avoid making a loss. The other main objective was a desire to develop some products of their own so that the firm would achieve some measure of independence. At one time the company's objectives had been issued in writing to members of the management hierarchy but, the M.D. explained, the turnover of staff had been so great that this was no longer considered advisable.

The company's products were mainly coil spring assemblies, metal and plastic moulding, decorative badges, press metal work and other engineering service work. Once again the market was said to be very competitive because the presses used for metal working did not exceed 50 tons.

There were, therefore, a large number of small firms which competed for orders in this market. Most of the firm's customers were small manufacturing organisations but there were some large firms in the motor vehicle industry who purchased component parts and accessories for various type sof vehicles. Despite the low level of production some items were still assembled by 'outworkers'. This was done because the cost of operating in this way was still well below the labour cost which would have been incurred had the work been done within the company. The saving was mainly obtained by avoiding National Insurance and S.E.T.

The pricing policy was aligned with the new objective of 15% on turnover and thus operated on a cost plus basis. In this case the mark up was 450% on direct labour costs which covered overheads and the desired profit margin when operating at 80% of capacity. A typical price calculation was thus as follows:

Materials		70 shillings per ' 00
+ 15%		10 " " "
Labour		
Black H.P.	2 x 455%	9 " " "
Raise P.P.	8.8 x 455%	40 " " "
Fold H.P.	9.7 x 455%	44 " " "
Setting time	4 hrs. x 3.6	14.4 " " "
	Price	187.4 " " "

Minimum batch size 10,000 units

All price quotations were seen by the M.D. after being prepared by an estimator. In 70% of the cases the quotation was issued as originally calculated; in 25% of the cases an uplift of 10% was made by the M.D., and in 5% of the cases the quotation was completely recalculated by the M.D. who would occasionally addup to 100% to the original figure, or apply the 3 slide rate per '00 to a 4 slide operation as the "marginal cost" to obtain an order. While this was obviously not what either the cost accountant or the economist would regard as marginal costing, it did reveal that the price quoted was occasionally reduced below the normally calculated price and on rare occasions even below the total cost level.

Conclusions.

This was obviously a charismatic type organisation with the owner proprietor dominating those around him. The company was in a very competitive market and in a very difficult situation. In the past growth had been associated with process innovation based on the engineering skill and creative ability of the Managing Director. Under current economic conditions this no

longer appeared to be adequate and sales were gradually diminishing. There was a fairly high labour turnover among management and operatives which seemed to be causing considerable technical problems which in turn did not help sales.

The company's objectives were quite specific but based on a level of capacity utilisation which seemed unlikely in the current year. The failure to make a profit in the previous year had resulted in an increase in the mark up on labour costs which meant higher prices. Since many other organisations had also increased prices to cover increased labour costs this was not the additional handicap it might have been.

The pricing policy was to add a fixed percentage to direct labour costs but in practice the M.D. modified almost one third of the quotations either to make the price more competitive or to take advantage of an abnormal situation. This was one more example of the uneven price sensitivity of customers in the market, but the really significant profit margins were obtained by modifying the process in such a way that costs were considerably reduced but prices left at their previous level.

Despite the fact that output was well below capacity level there was no general reduction of price quotations, and in fact the M.D. had just put prices up by increasing the overhead charge on labour costs. Thus there was no conscious effort to equate M.C. and M.R. even though the costing process did provide the basis for such an action. There seemed to be and exaggerated faith in the power of a 'quality' product to stimulate demand. The focus of attention was inwards on cost and quality rather than outwards on stimulating demand which was what the situation demanded. This was typical of many small engineering companies where the professional training of the chief executive naturally led to an exaggerated attention with internal activities. When, as at the time of the visit, the economic situation deteriorates these firms are the first to suffer from reduced sales.

[illegible]

ula
UR RATE x [illegible]%
[illegible] x [illegible] = [illegible]
[illegible] x [illegible] = [illegible]
[illegible] x [illegible] = 330
[illegible] x [illegible] = [illegible]
[illegible] x [illegible] = [illegible]

366 p [illegible]

Estimating output for [illegible]

Qty 'A' Output operator can do without experience to earn basic pay.

Qty 'B' Output operator can do with experience and is trying. This should be 133⅓% of 'A'

Qty 'C' Output 'A' Top Operator can reach should not exceed 150% of 'A'

OUTPUT PER [illegible]	[illegible]	[illegible]	330 [illegible] OP. [illegible]	[illegible]	400 [illegible]	AUTO OP. HAND 420/hr 4 slide	AUTO OP. ORIGINAL COST 300/ Hr. 3 slide
[illegible]	440	550	660	[illegible]	968	840	600
[illegible]	220	275	330	404	[illegible]	420	300
[illegible]	147	165	220	[illegible]	323	280	200
[illegible]	110	130	165	[illegible]	242	210	150
[illegible]	88	110	132	[illegible]	[illegible]	168	[illegible]
[illegible]	73	92	110	135	161	140	100
[illegible]	63	80	99	115	[illegible]	120	86
[illegible]	55	[illegible]	83	101	[illegible]	105	75
[illegible]	[illegible]	[illegible]	73	90	108	93	67
[illegible]	44	55	66	81	97	84	60
[illegible]	37	45	55	67	81	70	50
[illegible]	32	40	47	58	69	60	43
[illegible]	28	35	42	51	61	53	38
[illegible]	25	31	37	45	54	47	33
[illegible]	22	28	33	40	47	[illegible]	30
[illegible]	20	25	30	37	44	[illegible]	27
[illegible]	19	23	28	34	40	35	25
[illegible]	17	22	26	31	37	32	23
[illegible]	16	20	24	29	35	[illegible]	21
[illegible]	15	19	22	27	32	[illegible]	20
[illegible]	14	18	21	25	30	[illegible]	19
[illegible]	13	17	20	24	28	25	18
[illegible]	13	16	19	22	25	[illegible]	17
[illegible]	12	15	16	21	25	22	16
[illegible]	11	14	17	20	24	21	15
[illegible]	9	11	[illegible]	16	19	17	12
[illegible]	7	9	11	13	16	14	10
[illegible]	6	8	9	11	14	12	9
[illegible]	6		8	10	12	11	8
[illegible]	5	5	7	9	11	9	7 6
[illegible]	4	6	7	8	10	9	
[illegible]	[illegible]	5	6	7	8	7	5

NOTE [illegible] estimating output [illegible] allow for a max. of 80% eff. but reduce for more difficult [illegible].

[illegible] setting time for [illegible] quantities.

[illegible] run should be 8 hours. If less charge a premium.
[illegible] costing only to be used after consultation with D.W.L. or Sales [illegible].

H.P. hand [illegible]
P.P. power press

SELLING PRICE RATES

Formula:
[illegible] RATE x 366%
60 x 366% = 220
72 x 366% = 275
90 x 366% = 330
110 x 366% = 404
132 x 366% = 484

366% ?

Estimating output for Quoting use Qty 'A'
Qty 'A' Output operator can do without experience to earn basic pay.
Qty 'B' Output operator can do with experience and is trying. This should be 133⅓% of 'A'
Qty 'C' Output 'A' Top Operator can reach (should not exceed 150% of 'A'

% OUT PUT FOR HR.	220d/hr H.P. OP. RATE 60d/hr.	275d/hr P.P. OP. RATE 72d/hr.	330 HRS OP. UP TO 90d/hr.	404d/hr MIN OP. RATE 110d/hr.	484 EX-PERIENCED MEN OP. RATE 132d/hr.	AUTO OP. RATE 420d/hr [illegible]	AUTO OP. MARGINAL COST 300d/ Hr: 25/-d.
50	440	550	660	808	968	840	600
100	220	275	330	404	484	420	300
150	147	185	220	269	323	280	200
200	110	138	165	202	242	210	150
250	88	110	132	162	194	168	120
300	76	92	110	135	161	140	100
350	63	80	99	115	130	120	86
400	55	69	83	101	121	105	75
450	45	62	73	90	108	93	67
500	44	55	66	81	97	84	60
600	37	45	55	67	81	70	50
700	32	40	48	58	69	60	43
800	28	35	42	51	61	53	38
900	25	31	37	45	54	47	33
,000	22	28	33	40	48	42	30
,100	20	25	30	37	44	38	27
,200	19	23	28	34	40	35	25
,300	17	22	26	31	37	32	23
,400	16	20	24	29	35	30	21
500	15	19	22	27	32	28	20
600	14	18	21	25	30	26	19
700	13	17	20	24	28	25	18
800	13	16	19	22	26	23	17
900	12	15	18	21	25	22	16
000	11	14	17	20	24	21	15
500	9	11	13	15	19	17	12
000	7	9	11	13	16	14	10
500	6	8	9	12	14	12	9
000	6	7	8	10	12	11	8
500	5	6	7	9	11	9	7
000	4	6	7	8	10	9	6
000	4	5	6	7	8	7	5

NOTE. 1. In estimating output rates allow for a max. of 80% eff. but reduce for difficult jobs.

2. Consider setting times for economic quantities.

3. Minimum run should be 6 hours. If less charge a premium.

4. Marginal costing only to be used after consultation with D.W.L. or Sales Manager.

H.P. handpress

PP power press

Company E.$_9$

E$_9$ was among the longest established firms visited during the investigation. It was originally formed early in the 19th century and remained under the ownership of one family for over 150 years. Eleven years ago, however, the family members decided to dispose of their share holdings and the firm became a wholly owned subsidiary of a large organisation which has many other subsidiaries and a total turnover of around £7,000,000 per annum. The family connection did not cease with loss of ownership and one member remained with the company as managing director. As in most other engineering companies visited the Managing Director was an engineer by training.

The company employed approximately 150 people, of whom one third were females. Turnover in the last financial year was estimated at £450,000 yielding a profit of about 28% on capital employed of £300,000 and of approximately 19% on turnover.

In the past objectives and policies had not been issued in written form but the Managing Director was currently engaged in establishing a long range plan for the company and this would be issued in due course. The draft plan set out the objectives in the following way.

"Objectives

Profit

To increase profit so that our company will become one of the major subsidiaries of the Group (£100,000 net profit per annum).

Prestige

Our company will wish to maintain the high standard of personal service that it offers and its reputation for ensuring delivery of customers requirements on time and meeting customers exceptional delivery requests if assistance is required.

Company Tradition

The company has a reputation for a high degree of quality which it will want to maintain. Quality is invariably put before cost wherever possible.

Product Tradition

The company traditionally tackles difficult engineering jobs that are not undertaken by many of its competitors – it is able to do this with its varied manufacturing resources. This tradition will be maintained provided this can be continued on a profitable basis.

Design

The company's facilities for design work are limited as it works primarily to customers own detailed requirements.

Market Supremacy

It would be difficult for the company to achieve this as it has many competitors spread throughout the country".

The long range plan for this company was designed to operate within the constraints and objectives specified by the parent organisation. In this context one of the most important group objectives called for a 'real' growth of 17½% per annum in net profits. The majority of this, 10%, was expected from companies already within the group, but the remaining 7½% was expected to arise from companies to be acquired during the year. An increase in net profits from firms within the group would bring the average rate of return on capital employed to 30%. and this provided the minimum target for this company. In fact, company E_1's short term objectives specified a return of 33.1/3% on capital employed and a turnover of £500,000. This level of profit on capital employed represented a margin of approximately 20% on turnover.

The company was mainly engaged in metal presswork and fabrication although other kinds of engineering and metal forming work was undertaken and a limited number of products were factored. Most of the items were made according to customer specification but the company was also developing proprietary articles for sale as accessories or component parts for customers' products. The range of products included telephone brackets, cleats, clips, bolts, sump trays, metal 'furniture' for lorries, and cranks, which were available either as original equipment to manufacturers or as replacement parts sold through factors and distributors. The customer list thus bore the names of many of the large motor vehicle producers,, nationalised transport undertakings, coach and vehicle builders, agricultural and industrial engineers, and major distributors such as Brown Bros. There was also a large number of smaller customers who made up for a quite significant proportion of the turnover, and a slightly more significant proportion of the profit.

Competition for items sold as original equipment to the motor vehicle producers was quite strong and the profit margins were said to be small but the volume of work made it worth while. In some special sections of the market, .e.g. the metal furniture for lorries, there appeared to be only one major competitor and in this case the margins were said to be "more acceptable".

In this latter case the market was divided fairly equally between the two major suppliers. There was no explicit agreement on prices but a movement, either upwards or downwards, by either company was u sually followed by the other company. A short while before the visit this company increased its price for these items by 7½% to compensate increased labour and material costs, the competitor had immediately followed by increasing its prices for similar items by 17½%. This additional increase was attributed to the fact that the competitor had just recruited a new marketing manager who was trying to improve the profitability.

The company's pricing policy was to charge as much as the customer would stand. Thus there were no general price lists issued and each enquiry was considered individually. There were two people involved in the actual price decision making, one was the Managing Director and the other was the Works Director who undertook the task when the Managing Director was not available. Both individuals operated according to this principle but the range of profit applied as a percentage on total estimated cost varied considerably between the two. The margin applied by the Works Director range from +33.1/3% to +150% whereas the margin used by the Managing Director ranged from +26% to +217%. There is a further significant factor observable from the figures given below which is that the Managing Director's quotations tend to be lower than his colleague's for large volume enquiries and higher for small, once only type, orders.

Table 1

Cost – price calculation

Item	Product	Quantity	Total Cost		Works Director		Managing Director	
			Product	Tooling	Product	Tooling	Product	Tooling
1	Bracket 140	20	12/4½ ea.	–	25/- ea.	–	25/- ea.	–
2	Bracket 141	100	9/0½ ea.	–	22/6 ea.	–	13/6 ea.	
3	Pipe clip	2,000	4d. ea.	£25	6d. ea.	£35	£9. ea.	£45
4	U bolts 'A'	300 p.w.	7/0¾ ea.	–	9/5 ea.	–	8/9 ea.	–
5	Cleats	30,000 p.a.	11/9 ea.	–	15/6 doz.	–	16/- doz.	–
6	U Bolts	900	12/4¾ ea.	–	11/- ea.	–	16/- ea.	–
7	Cranks	2,000	13/7 ea.	–	22/- ea.	–	20/- ea.	–
8	Bolts	40,000	6/6 ea.	–	10/3 ea.	–	8/9 ea.	–
9	Spring clips	50,000	53/- per '00	–	75/- per '00	–	70/- per '00	–
10	Sump trays	750	11d. ea.	–	1/6 ea.	–	2/- ea.	–
11	Brackets	1,000	9½d ea.	–	1/9 ea.	–	2/- ea.	–
12	Hook bolts	250	2/6 ea.	–	4/- ea.	–	5/- ea.	–

The actual prices quoted in the above examples were those determined by the Works Director except in the case of item 2 where the Managing Director revised the price before the quotation was issued. The last two columns of the table show that the Managing Director said he would have quoted at a time after the quotations had been made but before any orders had been received. Items 6, 7, and 8 were said to justify a lower quotation than that made by the Works Director because of the volume involved, but items 10, 11, and 12 did not justify a keen price because the size of order was so small. Variations in the margin on cost imposed by the Works Director on these items ranged from 33% to 150% and by the Managing Director from 30% to 150%. Evidence of the wider range of profit margins used by the Managing Director is given in the following recent list of revised prices determined by the Managing Director for one of the larger motor vehicle companies.

Table 2

Item	Monthly usage	Minimum batch size	Cost	Contri-bution %	Contribution per unit time £/hr	Existing selling price	Proposed New selling price
13	4,000	5,000	9.89	35	1.28	12/-¾d doz.	13/00
14	1,500	3,000	1/5	48½	0.51	13/8½d ,,	1/10-2/2½d.
15	200	1,000	11/5¾d	20½	1.29	12/7½d	14/6d
16	200	1,000	2/6d	69½	137	7/10½d	7/10½d
17	Nil	1,000	9½d	53	1.52	1/2½d	1/2½d
18	100	1,000	9½d	64	2.00	1/5½d	1/5½d
19	100	1,000	11½d	59	1.45	1/6½d	1/6½d
20	100	1,000	2/-	47	2.30	3/1¾d	3/1½d
21	100	1,000	2/3d	52	2.46	3/9½d	3/9½d

The average contribution per unit time that the company must achieve to reach its budget for 1969 is £0.9 per hour.

In this table the difference between 'cost' and price varies from 26% on cost in item 15 to 217% on cost in item 16. The explanation given for these variations was that buyers were primarily concerned with the larger quantities and more expensive items and tended to pay less attention to 'minor' purchases so that the margins on minor items could often be very much larger than elsewhere.

There were occasions when the quotation issued was referred back to the company

informally, in which case the Managing Director usually attempted to 'negotiate' a price acceptable to both parties. Information, other than cost data, upon which prices were based was obtained from the company's own representatives, from customers direct, from representatives of other companies calling upon this organisation, and from quotations from other similar firms to whom work was subcontracted.

For proprietary and replacements items the company did suggest a retail price to distributors. Factors who stocked and sold more than £10,000 per annum were allowed a discount of 17½% off the recommended retail price, and those who sold less than £10,000 per annum were allowed 10% off retail price. Normal retail outlets were permitted a 25% discount on retail price and wholesalers 50% off retail. However, a very large wholesaler was often permitted an extra 2½% discount on the invoiced price. It was interesting to note that a large motor vehicle manufacturer, acting as a factor, was being offered items at 60% off the recommended retail price so that in this area, as well as in profit margin determination, there was a great deal of subjective decision making.

Here, as in other companies, there were illustrations of abnormal situations arising where a customer was 'desperate' for a small quantity of a particular item. In one such case the company was able to meet the request by working Saturday afternoon and Sunday morning but the 50 items concerned cost the customer £100 instead of the normal £2.10.0. The cost per item would obviously have been greater than in normal working hours but, the Managing Director stated, the profit margin was also "considerably" greater and yet the customer went away satisfied.

A copy of the Estimating/Planning Sheet and the Pricing Sheet for items 1 and 2 are attached for illustration.

Conclusions

Although the Managing Director of this company was a professional manager, in the sense that he had no part in ownership, he still exhibited the typical owner proprietor's attitude towards profit. The objective quoted above may be slightly misleading because, although it specified a particular return on capital employed, the Managing Director insisted that he saw it as a minimum requirement and not the norm. The motivational basis for this attitude might, however, be rather different from that of the owner proprietor; and it is possible that the Managing Director might be primarily concerned with improving his own prestige in the

in the management hierarchy of the group of which his company was a member.

The policy for pricing decisions was fairly clear and formed the basis upon which both the Managing Director and the Works Director operated. Nevertheless there were significant differences in the way in which the policy was implemented. The variation in the profit margins imposed by the Managing Director were greater than those of the Works Director, and there was evidence that the Managing Director tended to price lower than his colleague on the larger orders and higher on the smaller orders. The result of these differences is shown in the following table. If all the quotations made had resulted in orders then the profit earned by quotations issued by the Works Director would have been approximately £2,700 greater than his Managing Director's.

Table 3

Profit calculation for Table 2

			W.D.	M.D.	Estimated Cost
Profit	Item	1	252.50 shillings	252.50	246.50
		2	1,346.00	446.00	937.50
		3	533.33	1,233.30	666.66
		4	8,474.40	6,074.40	500.00 25,425.00
		5	112,500.00	127,500.00	352,500.00
		6	4,144.50	3,244.50	11,157.75
		7	33,670.00	29,670.00	27,150.00
		8	150,000.00	90,000.00	262,000.00
		9	11,000.00	8,500.00	26,500.00
		10	437.50	812.50	687.50
		11	958.30	1,208.30	791.70
		12	375.00	625.00	625.00
			323,691.51/-	269,566.50/-	709,187.61/-
			£16,184	£13,478	£35,459

Difference of £2,706 (7.7% on cost).

Turnover in the company had been increasing steadily over the past few years so that demand had always been greater than capacity. This situation was dealt with by subcontracting, a process which continued up to the point where the bought in cost, the marginal

order cost, was approximately equal to the marginal order revenue. There was also some evidence of unwillingness to undertake small complicated orders and this itself may be considered a form of voluntary restriction of output.

The costing system was designed to show the management accountant's concept of marginal cost, which included both material costs and direct labour costs. In this case it could also be argued that this was the same as the economist's concept of marginal cost because the amount of work in hand on order made it clear that quotations were being made for production, and delivery, sometime in the future. This meant that it might have been possible to dispose of labour in the meantime and thus the labour element could justifiably be classified as an escapable, and thus marginal, cost. The consequence of this was that the Managing Director and his colleagues were able to identify the potential contribution element for each quotation because the marginal order cost was available. The point was made by the Managing Director that if trade was really bad the company would be forced to consider cutting prices below full normal contribution leve, i.e., moving closer to the MC = MR position.

[illegible] LABOUR COST 32·41 32·41

UNIT TOTAL COST 128·41 (12½) 103·41 (9½)

TOOLING COST

NUMBER AND DATE OF PREVIOUS ORDER

INVOICE REF. AND DATE OF PREVIOUS SUPPLY

SELLING PRICE OF PREVIOUS SUPPLY

SPECIAL REMARKS

NO RECORD OF PREVIOUS ORDER OR QUOTE

140 @ 25/-

EXTRA FOR 141 @ ~~[illegible]~~ 13/6 each

TOOL CHARGE —

PERCENTAGE PAYABLE BY CUSTOMER. FULL COST /50% —

INVESTMENT GRANT TO CUSTOMER/JOSEPH BILLINGHAM —

TOOLSETTING CHARGE —

DELIVERY OFFERED 8 WEEKS

DELIVERED YOUR WORKS ON ORDERS IN EXCESS OF £50

TERMS NETT M.A. less 2½% NHR.

QUANTITY BASIS OF ESTIMATE: ONE OFF

PART DESCRIPTION: [illegible]

ITEM No.	MATERIAL SPECIFICATION	PROCESS DESCRIPTION AND SPECIFICATION	ESTIMATED MATERIAL SIZES	No. PER UNIT	[illegible]	[illegible]	EST. COST OF MATERIAL OR PROCESS	[illegible]	TOTAL MATERIAL COST	CHECKED BY
1	2x½ MS	GALVANISE	2x½x20"	1	3.4 [illegible]	11.56	[illegible]	116.00		
2	2x½ MS	GALVANISE	2x½x26"	1	3.4 [illegible]	7.6	"	76.00	4715.20	
3									116.0	
4										
5										CHECKED
6									4715.21	
7									76.0	
8										DATE
9										
10										

ITEM No.	OP. No.	DESCRIPTION OF OPERATION	DEPT.	MACHINE AND/OR METHOD	ESTIMATED OUTPUT PER HOUR	GRADE OF LABOUR	EST'D LABOUR COST UNIT		TOOLING REQUIREMENTS	ESTIMATED TOOLMAKING TIME--HOURS	TOOL COST
1.	1.	CUT TO LENGTH.	D	PELS.	200	M	1.11				
2.	2.	BEND.	B.		60	M.	4.50				
	3.	MARK. FOR DRILLING.	M		25	M	10.80				
	4.	DRILL	M.		15	F	16.00				
							32.41	32.41			
							116.00	76.00			
							148.41	108.41			

Company $E._{10}$

This firm was first registered as a partnership in 1935 by the father of the present Managing Director. The founder was, by training, a press tool maker and the company was originally engaged in that particular branch of engineering. In 1940 the partnership was dissolved and the organisation changed into a private limited liability company. It managed to stay in business during the war by concentrating upon the manufacture of press tools for essential production work.

In the years immediately following the war the company did not develop in the way the founder had expected and so, in 1949, he expressed his intention of selling out. However, his two sons, who were also engineers and employed in the firm, persuaded their father to give them a chance to run the company for a few years to see whether they could effect an improvement. They assumed managerial control in 1950, one as Managing Director and the other as Sales Director, and preserved the company's independence until early in 1969. At that time the family agreed to sell their shareholdings to a large organisation which was seeking to diversify its activities into the engineering field: This was the second engineering unit which had been purchased. Both directors thus ceased to have any part in the ownership of the company but were given a five year contract of employment to remain in their respective positions.

The company employed approximately 180 people in two separate establishments located 10 miles apart. 80 of these were engaged in the press tool manufacturing unit situated in Birmingham and were mainly men, whereas the remainder, who were mainly females, were employed in the press metal working units some distance away. Turnover during the previous financial year had amounted to roughly £500,000, providing a profit of £62,000, or 12½% on turnover. This, the M.D. explained, was a little misleading because the press tool factory had achieved a turnover of £175,000 and a profit margin of £27,000, giving a return of 15½% on turnover while the press metal working unit had only achieved a profit of 10.8% on a turnover of £325,000.

The question concerning objectives brought a rather irritable response from the M.D. indicating that the parent company had not yet told him what was expected. Under the circumstances the best he felt he could do was to try to improve slightly on the previous year's figures.

This was a service oriented engineering organisation which produced press metal

working tools and parts to customer specifications but marketed no proprietary product of its own. In the press tool market quality appeared to be the most important item to the customer because of the need to keep his own production lines going. Delivery dates were next in importance and subsequently price. It was stated that this was a seller's market more often than a buyer's market because the number of suppliers was gradually dwindling. This the M.D. attributed to the extreme age of many proprietors who had failed, or had not wished, to provide management continuity. This lack of competition did not permit the supplying companies to charge exhorbitant prices, however, because the people responsible for buying such equipment were usually engineers who had a good idea of the time taken to produce the items concerned and were aware of the average trade price per hour. Nevertheless buyers rarely found themselves with time to 'shop around' for a piece of equipment and this permitted a certain amount of exploitation to take place.

The market for pressed metal parts was quite different and very much more competitive. This was the 'lighter' end of the market where there was a large number of small competitors operating with a limited amount of capital and with mostly semi-skilled labour. It was also suggested that since 60% of the total cost of the product was the metal itself most customers were able to arrive at an approximate total cost without much difficulty; in fact, many buyers advised suppliers of the price which they were prepared to pay and waited for a quotation equal to, or below, that price.

There were two major groups of customers; the first comprised the large motor car manufacturing organisation and which accounted for approximately 40% of turnover, and the second domestic appliance companies who accounted for most of the remainder. There were some small customers but these were not really significant.

The company's pricing policy, as determined by the M.D., was to charge what the market would stand. Until recently the costing process was carried out by a cost-estimator but the final decision concerning price was made by the M.D. This had been charged and, at the time of the interview, the final pricing decision was made by the Technical Manager.

The procedure for quoting against enquiries for press tools was divided into two stages. In the first stage a general estimate was issued based on the drawings submitted by the customer. The general estimate was calculated in the following way:

Estimate of fitting time, say	200 hours
Estimate of machining time, say	100 hours
Total	300 hours
+ 50% for materials and drawing time	150 hours
	450 hours @ 37/6d per hour.

Rate per hour = Toolmakers rate of 15/- per hour + 150%

(which includes 12½% profit margin).

The second stage was undertaken when the customer expressed interest and asked for a specific price.

Some illustrations of the estimated price, including a 10% margin on cost to compensate for costing errors and a 12½% margin for profit, and the actual price quotation issued during August 1969 are given below. The final profit margins expressed as a percentage on cost bear out the policy laid down by the M.D. but were rather higher than the previous year's profit had indicated. Thus it seems as though the sample given may not have been representative of the total range of quotations issued.

Press tools

Total Cost £	Standard Price £	Quoted Price £	Final profit as % on cost
390	485	495	27
450	562	575	27½
285	355	390	37
440	549	580	32
1054	1318	1440	37
1890	2362	2487	32
1274	1593	1740	40
2075	2594	2740	32½
621	776	924	49
620	771	848	36½
670	862	946	41
755	944	1038	37½
1020	1274	1420	39
496	620	620	25

Conclusion

This was a wholly owned subsidiary of a larger organisation where the two previous owner-managers were retained in their previous roles. The M.D. said that the parent organisation had set no constraints on the company's activities but that he was a little disturbed by its failure to make clear what was expected of him in terms of output and profitability. So the objectives set were simply to improve on the previous year's figures.

The firm operates as a service engineering organisation in two markets, one of which is very competitive and the other rather less competitive, and the previous year's financial figures illustrate this fairly clearly.

The pricing policy is to charge what the market will bear. Before the take-over the final pricing decisions were taken by the M.D. but after the event this function was delegated to the Technical Manager. The overall profit margins for the previous year revealed an average of 15½% on turnover for press tools whereas the average margin on the quotations issued in July 1969 were 35%. The different margins for individual quotations show that the pricing policy was being implemented but the general level was higher than that of the previous year's orders. The result of the August quotation, if successful, would have been similar to thosein Company E_9 where the management roles involved were almost identical.

The company was not operating at capacity level in either plant but there was no attempt made to stimulate demand by lowering prices, indeed the evidence given above seems to suggest that prices had been increased since the early part of the year. The M.D. explained that "We need to watch costs carefully on car model contracts because these may last for five years and the constant increase in labour costs results in profit errosion. We sometimes have to ask for an adjustment to be made if the rise is large but we have to be careful in case the customer decides to put the contract out to tender again, in which case we may lose it".

In the press tool unit there was no deliberate attempt to increase output in the short run by reducing prices to the point where MC = MR. In the long run it seemed likely that the firm's relatively monopolistic position would be still further improved because of the exodus of 'old' firms from the industry and there was the prospect that profits could be improved at the present level of output.

In the press metal working unit there was also no attempt to reduce prices in the short run to stimulate demand. But in this case the situation was rather different. It was

possible that a reduction in prices in this very competitive market might have precipitated a price war because of the excess capacity in the industry. The result might, therefore, have been a considerable drop in profits without much change in the volume of output.

Company $E._{11}$

This company was established well before the second World War and was for many years a typical family concern. In 1965, however, the family disposed of its holdings to a large local company which already had some interests in the electrical field. As often happens in situations of this and the parent company showed no desire to interfere in the management of what was obviously a successful business and had retained the services of the Sales Director and the Production Director in their previous roles. Both men were given a seat on the new Board of Directors and the Sales Director also continued in his previous role as chief executive but with the title of General Manager. By training both directors were engineers.

At the time of the visit the firm employed 180 people of whom 80 were females. Turnover during the previous financial year was approximately £600,000 yielding a profit of £75,000 or 12½% on turnover. "This", the General Manager remarked with some emphasis, "was a return of over 40% in one year on the price paid for the company". Sales during the current year had been a little disappointing because some of the traditionally metal products made by the company were being displaced by plastic substitutes. This was causing the company some concern and permission had been obtained from the parent organisation to install equipment which would enable it to meet this competition on equal terms. It was hoped that this would enable the firm to recapture some ot its lost share of the market.

The freedom of action permitted this company included that of establishing its own objectives and policies. These were determined by the General Manager and his senior colleagues and submitted to the parent company for approval. So far these had been approved without any significant modification. The long term objectives were said to be profitability and growth, in that order; and the short term objectives were to increase turnover by approximately 10% per annum and achieve a profit margin of 15–20% on total cost.

The company produced a wide range of electrical accessories including switches, sockets, steel boxes, connectors, junction boxes, buckle clips, cable clips, staples, saddles, conduit, channeling, earthing clamps and clips, etc. These were sold to large electrical contractors, area Electricity Boards, and to electrical wholesale and retail organisations throughout the country. In the majority of cases the goods supplied bore the manufacturer's brand name but there were "one or two" customers who insisted on marketing their own branded article. This provided no problem except that these articles were sometimes sold in competition with the original manufacturer's own products.

Before 1939 the company held a large share of the market for switches and sockets. In the years immediately following the war this share fell considerably because the company did not feel it was worthwhile extending the already wide range of products offered to meet competition. Despite this restriction in the range of items the General Manager stated that the company was still technologically less efficient than its major competitors, i.e. M.E.M. and Crabtree, and the profit margins were, therefore, less than they were receiving. Because of the competitive market situation the company accepted the price leadership of its major competitors but had discovered that, within the existing price structure, the margin of profit which it derived from the more complex type of product was greater than that from the simpler model.

Most of the company's other products were competing with those manufactured by G.E.C., B.I.C.C., and a large number of smaller companies. There was one item, however, for which the company was reputed to have held almost a world wide monopoly. This, unfortunately, was the item which was being replaced by plastic substitutes and the monopolistic position was rapidly disappearing.

The pricing policy outlined by the General Manager was to accept the price leadership in situations where the market was competitive but to charge what the market would stand whenever an opportunity presented itself. Even in very competitive situations an attempt was made to 'arrange' prices with competitors so that a reasonable profit margin could be obtained. Prices to wholesalers were quoted in a catalogue which recommended a retail price and indicated a trade price of 33.1/3% off retail price. For most items there were also quantity discounts of up to 15% on the trade price. Factors received a further discount of between 10% and 25% on the trade price. All prices included in the catalogue, and quotations submitted to larger customers were determined by the General Manager on the basis of calculations prepared in the costing department.

Until 1969 the basic costing system used by the firm had involved adding 20% to the cost of bought out materials and components, and 400% to labour costs. However this had been considered unsatisfactory and a new system had been introduced which identified eleven cost centres and allocated overheads to labour cost in proportions varying from +100% to +520%. The cost price calculation then appeared in the following form:

	Materials	
	Bought out items	
	Labour	
	+ overheads	____________
	Works Cost	
+7¾%	(Admin. overheads)	____________
	Manufactured Cost	
+10%	Selling Cost	____________
	Total Cost	
	+ Profit	____________
	Selling Price	____________

N.B. The addition of Admin. Overheads and selling costs is grouped in calculation to a figure of 18¼% on Works Cost.

The following two pricing calculations illustrate both the old and the new method of approach.

Product A

New system

Bought out	281/1¾d	per '000
Roll feed 6/3 + 520%	38/9	,, ,,
Hand press 39/2¼ + 145%	96/-	,, ,,
Cleaning 4/9d + 100%	9/6	,, ,,
Packing 8/0¼ + 100%	16/0½	,, ,,
	441/5¼	,, ,,
+ 18¼% (admin.& Sales	80/6¾	
	522/-	,, ,,

Old system

Bought out	281/1¾d	per '000
+ 20%	56/2¾d	,, ,,
Labour cost	58/2½d	,, ,,
+ 400%	232/10	
	628/5	,, ,,

Price quoted 628/4¼d per 000

Representing a profit margin of 20.4% on total cost using the new system.

Product B

New system

Bought out	1031/10½	per '000
Roll feed 22/- + 520%	136/5	,, ,,
Packing 43/11 + 100%	87/10	,, ,,
	1256/1½	,, ,,
+ 18¼%	234/8½	,, ,,
	1490/10	,, ,,

Old system

Bought out	1031/10½	per '000
+ 20%	206/4½	,, ,,
Labour cost	65/11	,, ,,
+ 400%	197/9	,, ,,
	1501/11	,, ,,

Price quoted 1501/11d per '000

Representing a profit margin of 0.75% on total cost using the new system.

One further illustration using the new system distinguishes the different profit margins achieved through selling to wholesalers and to the area Electricity Boards.

Production cost is based upon a direct labour cost of 4/7½d per hour + 7.5/8d per hour cost of living bonus + 2.1/8d per hour time keeping bonus. This total labour cost of 5/5¼ per hour is then related to the number of units produced in a standard hour.

Product E.C./951

Bought out cost	958/1¼	per '000
Roll feed 3/1½d + 520%	19/3	,, ,,
Hand press 25/6¾ + 145%	63/5½	,, ,,
Drilling 4/10 + 200%	14/7½	,, ,,
Assembly 34/11 + 100%	69/11	,, ,,
	1125/4¼	,, ,,
+ 18¼% (admin. + sales)	205/4¾	,, ,,
	1330/9	,, ,,
	= 1/4 each	

			Profit on total cost	Profit on
Price quoted to Electricity Boards		1/8 each	25%	20%
Price to wholesalers				
a. under 500		2/-½d each	53%	35%
b. 500–759	(- 5%)		45	30
c. 760–1499	(-7½%)		41	27½
d. 1500–1999	(-10%)		38	25
e. 2000 +	(-12½%)		34	22½

The profit margins shown vary from 0.75% on total cost to 53% and the General Manager indicated that there may have been a few items which were being sold below cost as 'loss leaders' but these were the exceptions. He also explained that there were some simple assembly operations which were sub-contracted at a price 30% below even their own labour cost for the same job. This was possible because the sub-contractor used outworkers and avoided S.E.T. for his own organisation and income tax for the assemblers.

Conclusion

Although this was a wholly owned subsidiary of a much larger organisation the explicit objectives and policies were very much the same as they had been in the owner-manager situation previously. The market was a very competitive one but still retained one or two monopolistic pockets. These were gradually disappearing but, on the other hand, there was evidence that this company was quite deliberately attempting to reach agreement with competitors to eliminate uneconomic price competition.

Pricing policy was determined and implemented by the General Manager. The policy was to "get what you can" but this often meant charging the same price as the major competitor. There was still some tolerance in the market and the illustrations provided show a range of profit margins incorporated in quoted prices. They also reveal a smaller profit margin on the quotation to an Electricity Board than on prices quoted to wholesalers, even after the quantity discounts had been allowed.

Both the old costing system and the new one identifies the material, labour and overhead cost for each product line but there appeared to be no conscious attempt to determine output by equating MR and MC. The General Manager spoke of items which were sold at less than total cost but there was no evidence of a general lowering of prices to increase turnover despite the 'disappointing' level of sales.

Company E_{12}

This company was first formed in 1850 and, during its early life, was mainly concerned with the production of brass bedsteads. Later the product range was extended to include electrical goods but despite the rapid growth in the market for electrical products in the inter war period the company went into liquidation during the economic crisis in the early 1930's. One of its major creditors at that time was a British national bank and this company, like many others, was taken over and administered by that bank.

In 1935 the company was bought from the banking organisation by the person whose name it still bears. It subsequently operated as a private limited liability company until 1957 when it was taken over by a large public company and the controlling interest passed to a holding company. The Managing Director at the time of the takeover was retained in his previous capacity but ceased to have any shares in the firm. It was not surprising to find that once again the M.D. was an engineer, but in this case he had also had a considerable amount of experience in selling.

There appeared to be very little interference by the parent company in the management of this subsidiary. The Managing Director was given full responsibility for determining the company's objectives and policies and there had been no objections raised so far when these had been submitted to the holding company's Board of Directors for approval. The current long term objective was difficult to determine but was eventually stated to be "expansion". Short term objectives were rather more precise and were "to achieve a turnover of £50,000 and a profit margin of £30,000, before tax". This represented a return of approximately 9% on capital employed and of 5½% on turnover. Operating at that level the M.D. estimated that the company would be utilising about 76% of its production capacity.

The company employed 190 people, a small number of whom were females. In the previous financial year the turnover had been £550,000 yielding a profit of £30,000, i.e., the same figures as those used in the statement of current objectives. It should be noted, however, that since material costs averaged about 55% of sales revenue the return on value added, at 13%, was considerably higher than that quoted above on turnover, and on capital employed.

The company had no proprietary products of its own and concentrated its resources upon providing an engineering service for other companies. This service involved the manufacture of metal products on presses of up to 150 tons, and of welded metal fabrications, to customers'

specifications. Competition at the 'lighter' end of the press metal market was said to be extremely keen but was much easier for the heavier products and for welded fabrications. Only approximately 3% of the quotations issued for the 'lighter' articles were subsequently converted into orders and even then were only profitable when the orders included some fabrication work. 65% of the total output was sold to the motor car industry and the remainder to a fairly large number of small firms.

The Managing Director stated that the company's pricing policy was "to get what we can, what the market will bear". This was understood, and implemented within the limits of his authority by the Sales Director who was responsible for the day to day pricing decisions. The actual pricing procedure in this company was as follows. Each morning enquiries received were discussed by a management committee which consisted of the Managing Director, the Sales Director, the Works Manager, and the Company Secretary. If the enquiry was considered feasible it was passed to the Company Secretary who was also responsible for costing and estimating. An estimate of the total order cost was then prepared but reduced to a cost per hundred units of the product for quotation purposes. A profit margin of 10% was added to this total cost figure to provide a standard selling price which was then passed to the Sales Director. The Sales Director was able, if he wished, to vary the price within a range of ± 20% on the estimated total cost. It was pointed out that a reduction in price was usually accommmpanied by a change in the materials or process involved so that no loss was incurred. The Managing Director thought that 90% of the quotations which the Sales Director wished to alter were referred to the M.D. who subsequently made the decision. The Managing Director, it appeared, had authority to vary the price within a range of ± 25%, again with the proviso about not making a loss. Most of the quotations issued were said to be at the standard calculated selling price but approximately 30% were said to be above that level.

The M.D. was unwilling to provide examples of cost-price calculations but provided the following outline of the procedure involved.

	Material cost	....	per '00 units
For piecework operations	Labour		
	a. ______ standard mins. @ ______	....	per '00 units
	+ 4.93d per st. min. (overheads)	....	per '00 units
For day work operations	b. ______ mins @ ______	....	per '00 units
	+ 260%	....	per '00 units
	Total cost	______________	per '00 units
	+ 10% profit	______________	
	Standard Price	______________	per '00 units

Conclusion

This was a wholly owned subsidiary of a large concern run by professional managers who were given a great deal of freedom. The company's objectives and policies were determined by the M.D. and his senior colleagues but approved by the parent company. The nature of the objectives showed that there was not a great deal of control or interference, despite the M.D.'s protestations that his superiors would not wish him to divulge confidential information.

The company was exclusively a service unit which produced items to customer specification. A large proportion of its work went to the motor car trade and, it would appear, at fairly small profit margins. Output was well below capacity level at the time visited but there was a very positive denial that the firm would ever submit a quotation below total cost. It was impossible to check this statement but if 30% of the orders received were on the basis of a profit margin in excess of 10% on total cost, or 9.1% on turnover, it seems highly probable that some quotations were issued at below total cost if the final profit on turnover during the previous year was 5½%. This seems all the more likely because the budgeted turnover was approximately the same as that actually achieved.

There was no evidence that the person concerned was aware of the principles involved in the marginal analysis and thus of relationship between MC and MR and certainly none that he attempted to optimise output by achieving this equilibrium point.

Company S_2

S_2 was a small metal merchanting and manufacturing company included in the survey because it supplied many of the press metal working firms visited with their raw materials.

The company was first formed in the early 1920's by three individuals, two of whom were brothers, to buy and sell scrap metal. In the years that followed the business was extended to include the manufacturing of remelted non-ferrous metals and alloys and the stocking and distribution of new metals such as aluminium, stainless steel, and nickel. Ownership remained in the hands of the two original families until 1964 when the company was taken over by a large organisation which comprised more than sixty companies with a wide variety of interests. Very shortly after the takeover the two brothers, who had helped to form the company originally, retired from their executive positions but were each given a seat on the new Board of Directors and retained in "a consultative capacity". The third founder member of the firm had ceased to take any active part in the management of the company many years previously and had occupied himself in a quite diverse field of activity: His share in the ownership had been passed on to his son who was Managing Director at the time of the takeover. The son had been asked by the parent company to continue in his previous position and was, at the time visited, still Managing Director.

The firm employed about 120 people, including a small number of female operators. In the previous financial year sales revenue had amounted to approximately £3,000,000 yielding a profit margin of about £70,000, before tax, i.e. 14% on capital employed and just over 2% on turnover.

Objectives and policies were determined within the company by the M.D. and his two Assistant Managing Directors and submitted to the parent company for approval. These objectives and policies were then communicated piecemeal to other members of management when it was considered appropriate but were not issued in written form. The long term objective was stated to be growth and profitability, and the short term objectives as a return of 20% on capital employed and a turnover of £4,000,000.

The market in which this company operated was a very competitive one consisting of all the major metal and non-ferrous metal manufacturers and a host of small merchanting firms. Most of the orders received were for individual quantities of less than two tons per item. If the customer required larger quantities it was more economical to buy from the major supplier

direct. This competitive situation was apparently made worse when trade was depressed because the major suppliers would often increase the discount on prices for smaller quantities making the merchant's problems even more acute.

The customer profile included some large manufacturing companies and a large number of small firms in the metal working trades in the Birmingham area.

Pricing policy in this case was to charge what the market would stand but there appeared to be few opportunities to deviate from the competitive level which was £20 per ton above London Metal Market prices or 2d per lb "metal to metal". Occasionally it was possible to charge a higher price than normal because of the special circumstances involved but there were also occasions when it was necessary to do a little "horse trading" in order to get the order. The lower limit of the "horse trading" was determined by reference to the amount of 'contribution' involved. This signified that the company was able to identify its accounting marginal cost for each product line and used this as a basis for decision making.

To assist customers the firm issued a price list for standard items showing the price per pound for quantities ranging from "below 7lbs" to above 1 ton". Thus for ½ H Pure Aluminium Sheet, 3' x 2" x 0.012" the cost varied from 9/11d for quantities below 7lbs to 4/5d for amounts over 1 ton.

A sample of 18 invoices containing 32 items despatched in April 1969 revealed only four cases where the price charged deviated from the price list. Two of these deviations were positive and two were negative but all four were in the quantity price category adjacent to the correct one. This, the Assistant Managing Director explained, was within the authority of the departmental manager concerned; he was able to move the price one stage up or down from the correct list figure. The actual deviations were as follows:

		£	s	d
+ 3d x 44 lbs	=		11	0
+ 2½d x 576 lbs	=	6	0	0
		+ 6	11	0
– 4d x 301 lbs	=	5	0	1
– 7d x 2232 lbs	=	65	2	0
		–70	2	1

Thus the net effect was a loss of £63 11 1 on a total revenue figure of £3941 12 1, i.e. approximately 1.6% compared with a normal profit of 2.3% on turnover.

The Assistant Managing Director thought that customers were primarily interested in price, then in quality, availability, and service, in that order. The main factors influencing the actual pricing decision were, in order of priority, competition, market opportunity, costs, and the amount of work in hand.

Conclusion

This was a long established but wholly owned subsidiary of a large organisation which operated in a very competitive market. Material costs amounted to approximately 96% of total sales revenue with overheads and labour costs accounting for 1.4% and the profit margin 2.3%, The company's short term objectives aimed at increasing turnover by 33.1/3% yielding an equivalent increase in return on capital employed without any change in the profit margin incorporated in prices.

The Assistant Managing Director was a management accountant who had recently been appointed from a university post and was deliberately attempting to use the principles involved in the marginal analysis to determine the optimum level of output and therefore to maximise profits. This was the only company which attempted to do this explicitly and it was a little early to see the results. Nevertheless some improvement had already been made and it was hoped that this trend would continue.

Company B_1

This was the company manufacturing equipment for the building and construction industry chosen for comparison purposes. The present Chairman was a founder member of a much larger, but now separate, building company established shortly before the outbreak of World War II. The existing firm, B_1, became independent in 1960 and, since that date, had achieved a remarkable rate of growth. Both the Chairman and his son, who is now Managing Director, have professional qualifications relating to the building industry at the technological level. It is predominantly a family owned business with the Chairman holding the largest block of shares. A small number of shares are distributed amoung the working directors who are not members of the family.

The company employs 150 people located in distribution centres in London, the East Midlands area, and at the main office and factory in Birmingham. Turnover in 1967 was approximately £1,900,000, some £1,300,000 larger than in 1961. Existing capacity was estimated at £1,100,000 turnover but, it was pointed out, the company subcontracts about 50% of its work as a matter of policy. This provides the company with a buffer against seasonal fluctuations in demand which can be quite considerable in the building trade.

Until 1966 company objectives and policies were not clearly defined nor did they appear in written form. The spectacular growth of the company in the preceding years generated considerable pressure upon management to clarify and formalise both objectives and policies. This was done in September of that year and an extract from the statement issued to all company executives is quoted above, see page 35 Long term objectives were concerned with growth, profitability, stability, and the possibility of having to become a public company in order to provide the capitcal necessary for expansion. Short-term objectives were more specific and set an annual growth rate of 14% for profits while ensuring a return of at least 22½% on capital employed. This latter figure implies a profit margin of 9% on estimated turnover and a return of 45% on issued share capital.

It was interesting that the financial returns for the twelve months ending 30th April 1967 confirmed some, but not all, of these figures. The deviation in return on capital employed was partly due to an influx of loan capital fairly late in the year which distorted the pattern a little.

Total to 30th April 1967.

	Actual £	Budget £
Turnover	1,867,641	1,975,000
Manufactured cost	1,326,070	
	541,571	
Less direct overheads	109,703	
	431,868	
Profit on inter company sales +	157,818	
	589,686	
Less general overheads	444,009	
Net profit	145,677	

Return on turnover = 7.8%

Return on capital employed = 15.0%

Return on capital invested = 43.0%

Current price policy was a modified form of that inherited from the parent company. In its original form it had been "total production cost + 40%, and no item was put into production unless it was clear that it could be marketed at that level". Since 1960 the margin had increased until at the time of the survey the formula had become 'cost + 53¾%'. This may be tranlated into 35% of the selling price. Overheads were estimated at 35% on cost, or 26% on selling price which left a profit margin of 18¾% on cost or 9% on turnover.

Not all products were treated in the same way and the variations used are indicated below.

Profits Plan for 1968/9.

Product	Sales Value £	Gross Profit £	Gross Profit as % on Sales	Gross Profit as % on cost of production
A	1,150,000	414,000	36	56
B	50,000	21,000	42	73
C	50,000	12,000	24	31.5
D	75,000	23,000	31	45
E	100,000	33,000	33	50
F	50,000	15,000	30	43
G	100,000	30,000	30	43
H	150,000	48,000	32	47
	1,725,000	596,000	34.5	53

A special category of hire sales was allocated a margin of 55% on the estimated cost of production, although here also there were significant differences in the rates charged for various items which depended more upon what the market would stand than upon the cost involved.

The company issued a price list to representatives for standard products incorporating the margins showns above. However the Managing Director, the Production Director and the Sales Director were able to amend a price quotation at their discretion. This usually resulted in a marked increase for the overseas markets because of the special conditions prevailing, but a reduction in the home market to meet increased competition. Regional sales managers were also given a range of discounts which they were allowed to use if they felt it was necessary, with the proviso that these were not available for use with Local Authorities. The discounts permitted are given below;

Product		% discount allowed
A		3.8
B		10.0
C		5.0
D		2.5
E		3.7
F		5.0
G		2.5
H		5.9
Special 'x'		3.7
Special 'y'		8.4
	Total	4.0

The following tables indicate the actual discounts allowed over one month, and the 'year to date', and the resulting variances from the budget. The correlation between budget discounts and the above list is not perfect because of changes which had taken place during the intervening period. It is noticeable, however, that the discount had been exceeded in 50% of the items listed.

An illustration of the costing and pricing procedure is given in the following documents. The Operations Layout and the Material Specification are shown for the two items which go to make up Code 9016 on the invoice. The gap between the Standard Manufacturing Cost (£0.69 per unit) + 45% and the 28/10d per unit invoiced is not insignificant. Once more the 'system' seems to be honoured more in the breach than in the observance.

Summary

This is a second generation firm in effect although in fact management control is still in the hands of the Managing Director who first registered it as an independent organisation.

It is a much larger company than firms in the display producing industry and, for that reason, has been obliged to formalise its objectives and policies. Financial planning is well developed and precise and the formal price procedures are worked through in considerable detail. But the element of flexibility is maintained, and used quite extensively in pricing individual orders. The pattern is much the same as it is in the smaller companies with the qualification that there are more people involved in the pricing decision and that the amount of discretion permitted changes as one moved down through the heirarchy; nevertheless, the price policy does include an element of discretion at all levels.

ANALYSIS OF TRADE DISCOUNTS ALLOWED ON SALE INCOME

Period	
Number	6
Ended	2.11.68

THIS PERIOD

Total Actual	Total Variance from Budget	Discount to Sales Value	Product Group	Region: London Actual	London Disc/Sales	Midland Actual	Midland Disc/Sales	Northern Actual	Northern Disc/Sales	Scottish Actual	Scottish Disc/Sales	Southern Actual	Southern Disc/Sales	Export Actual	Export Disc/Sales
£	£	%			%		%		%		%		%		%
* 1,263	2,395	110	A	152	1.4	572	2.7	194	2.6	181	.7	164	.7		
393	(216)	5.0	D	–		393	4.9	–		–		–			
229	(16)	10.3	D i)	–		27	7.5	4	5.0	5	14.0	–		193	15.0
58	178	.3	G	–		–		–		–		58	3.9		
677	(242)	2.6	K	145	2.9	63	1.3	5	.5	380	7.0	84	1.5		
7	338	.3	E	–		–		7	.2	–		–			
246	71	2.6	B	–		–		–		–		–		246	13.3
85	195	1.6	Special 'y'	12	1.2	18	1.8	7	1.0	46	1.4	2	.1		
511	(275)	5.4	C	37	.9	–		17	15.0	–		–		457	15.0
139	97	4.7	F	102	5.1	–		34	3.6	3	5.0	–			
71	(4)	.8	H	2	.9	15	3.4	5	1.1	45	5.7	4	.1		
162	(162)	2.7	Special 'x'	3	1.0	15	.7	141	5.0	–		3	1.5		
3,841	2,359	1.7	TOTAL	453	1.9	1,103	2.6	414	2.8	660	1.9	315	.9	896	10.0

ANALYSIS OF TRADE DISCOUNTS ALLOWED ON SALE INCOME

Period	
Number	6
Ended	2.11.68

Year to Date (August, September and October only)

Total Actual	Total Variance from Budget	Discount to Sales Value	Product Group	London Actual	London Disc/Sales	Midland Actual	Midland Disc/Sales	Northern Actual	Northern Disc/Sales	Scottish Actual	Scottish Disc/Sales	Southern Actual	Southern Disc/Sales	Export Actual	Export Disc Sales
£	£	%			%		%		%		%		%		%
* 7,824	3,514	2.2	A	984	3.9	852	1.9	436	2.6	1,671	2.1	340	.7	3,541	12.6
394	(217)	4.2	D	–		394	5.0	–		–		–		–	
614	(104)	14.5	D i)	2	.1	27	1.0	4	.1	7	.1	–		474	15.0
58	214	.2	G	–		–		–		–		58	2.4		
1,552	(216)	4.1	K	473	3.9	242	1.6	32	1.6	630	5.7	175	7.4		
(58)	580	–	E	15	1.5			(133)	–	60	1.8	–			
878	513	3.6	B	11	1.2	(29)		98	4.9	–		3	.1	795	12.6
470	328	2.6	Special 'y'	37	4.2	138	4.2	37	4.6	251	3.7	7	.3		
599	(223)	4.5	C	71	1.7	42	4.0	19	3.2	–		10	2.5	457	8.5
192	181	2.3	F	104	5.1	14	2.3	136	3.9	9	2.2	(71)	–		
354	(599)	1.6	H	15	1.5	(105)	–	50	3.6	98	4.1	6	.2	290	4.8
162	(162)	1.0	Special 'x'	3	.1	15	.2	141	2.2	–		3	.5		
12,939	5,007	2.2	TOTAL	1,715	3.4	1,590	1.6	820	2.4	2,726	2.7	531	.8	5,557	11.8

Company C₁

INVOICE TO:

J. Bloggs Ltd.
Birmingham 24

DELIVER TO:

Norwich Union Ins. Offices.

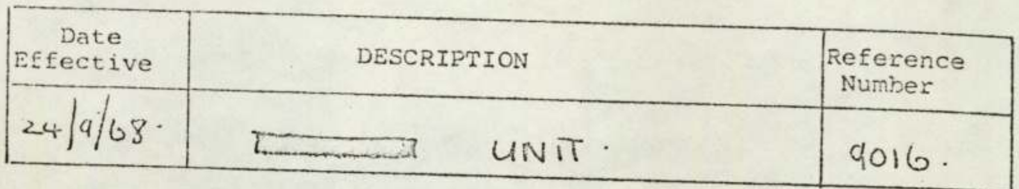
I.O. No.
A/N 16788-16927

AREA	TERMS	DESPATCHED BY	DATE
S.1	2½%	KDU912D	31.10.68

[CUSTO]MER'S ORDER No.	DATE	I.O.	DATE	SPECIAL	INVOICE No.	DATE
verbal		12258/B51176		Carr- ~~Nett~~	2934	31.10.68

[C]ODE		DESCRIPTION	RATE	Quantity Ordered	Quantity Desp'd	£ s. d.
07		A	27/3		14	19. 1. 6.
32		B *	57/6		55	158. 2. 6.
15		C	40/11		7	14. 6. 5.
16		D *	28/10		56	80.14. 8.
14		E	33/9		106	178.17. 6.
28		F	28/7		14	20. 0. 2.
26		G	49/4		8	19.14. 8.
11		H	25/11		25	32. 7.11.
12		J	20/3		5	5. 1. 3.
						528. 6. 7.
			Less	2½%		13. 4. 2.
						515. 2. 5.
			Carriage			15.14. 3.
					£	530.16. 8d

STANDARD COST AND PRICING SHEET



Date Effective	DESCRIPTION	Reference Number
24/9/68.	[illegible] UNIT.	9016.

TYPE OF COST	DESCRIPTION		AMOUNT	TOTAL
			£	£
PRODUCTION	MATERIALS		0.525	
	DIRECT LABOUR &		0.048	
	PRODUCTION OVER-HEADS		0.075	0.648
FINISHING	MATERIALS		0.019.	
	DIRECT LABOUR & FINISHING OVER-HEADS		0.023.	~~[illegible]~~ 0.042
STANDARD MANU-FACTURING COST				0.690
PACKING & CARRIAGE				
STANDARD DIRECT COST OF SALES				
GENERAL COMPANY OVERHEADS	BASIS	FIXED	VARIABLE	
		£	£	
MARKETING				
TECHNICAL				
DEVELOPMENT				
SECRETRIAL				
DIRECTORATE				
TOTAL COMPANY COST				
PROFIT				
SELLING PRICE				

Form No.P205

MA[illegible]IAL SPECIFICATION

ISSUE NUMBER		DATE EFFECTIVE	18 - 7 - 68	PRODUCT/COMPONENT DESCRIPTION	[illegible] Unit	REFERENCE NUMBER	9[illegible]

REFERENCE NUMBER	DESCRIPTION OF MATERIAL AND COMPONENTS	QUANTITY REQUIRED	COST PER UNIT				TOTAL COST			
			MATERIAL	DIRECT LABOUR	PRODUCTION OVERHEADS	UNIT OF MEASURE	MATERIAL	DIRECT LABOUR	PRODUCTION OVERHEADS	CUMULATIVE
			£	£	£		£	£	£	£
8079	2" x 2" x 3/16" ANGLE 7'4"	18 lb.	47.13.6	7/8 -	—	ton	0.383	—	—	0.383
5102	Ext'd Tile Wedge Assy.	2	0.071 ~~0.051~~	0.004	0.011	ea	0.142 [illegible]	0.008	0.022	0.555
ADD ALLOWANCE FOR UNUSABLE OFFCUTS (SCAFFOLD TUBE % OTHER TUBE % PLATE %)										
OPERATION LAYOUT										
TOTAL PRODUCTION COST								·040	·053	0.093
							0.525	0.048	0.075	0.648

PRODUCTS IN WHICH USED									

OPERATIONS LAYOUT

DATE EFFECTIVE	1st June,1968	PRODUCT COMPONENT DESCRIPTION	[redacted] Unit	REFERENCE NUMBER	9016

OPERATION NUMBER	DESCRIPTION OF OPERATION	COST CENTRE CODE	QUANTITY REQUIRED	DIRECT LABOUR: PIECEWORK PRICE	PER	PIECEWORK COST	SUPPLEMENT	TOTAL DIRECT LABOUR COST	PRODUCTION OVERHEADS: RECOVERY RATE	COST	CUMULATIVE TOTAL COST
						£	%	£		£	£
1	Cut 2" x 2" x 3/16" angle 3'8"	81	2	69d.	100				133%		
2	Weld complete		1	5	ea	2·66	50%	4.017		5.313	9.360
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
F1											
F2											
TOTAL CONVERSION COST								4 017	—	5.313	9.360

per 100

MATERIAL SPECIFICATION

ISSUE NUMBER		DATE EFFECTIVE	21.5.68.	PRODUCT/COMPONENT DESCRIPTION	[illegible] WEDGE ASSY (EARED) PS.	REFERENCE NUMBER	5102

REFERENCE NUMBER	DESCRIPTION OF MATERIAL AND COMPONENTS	QUANTITY REQUIRED	COST PER UNIT			UNIT OF MEASURE	TOTAL COST			
			MATERIAL	DIRECT LABOUR	PRODUCTION OVERHEADS		MATERIAL	DIRECT LABOUR	PRODUCTION OVERHEADS	CUMULATIVE
			£	£	£		£	£	£	£
5059	WEDGE	1	3.24d			EACH	0.013			0.013
5058	WEDGE PRESSING	1	4.75d			EACH	0.020			0.033
5104	[illegible] U PRESSING	1	9.00d			EACH	0.038			0.071
ADD ALLOWANCE FOR UNUSABLE OFFCUTS (SCAFFOLD TUBE % OTHER TUBE % PLATE %)										
OPERATION LAYOUT										
TOTAL PRODUCTION COST								0.004	0.011	0.015
							0.071	0.004	0.011	0.086

PRODUCTS IN WHICH USED	9016	9041	9018	9019	9017

OPERATIONS LAYOUT

(per 100)

DATE EFFECTIVE	1st June, 1968.	PRODUCT COMPONENT DESCRIPTION	[illegible] Wedge Assy. (eared) P.E.	REFERENCE NUMBER	5102

OPERATION NUMBER	DESCRIPTION OF OPERATION	COST CENTRE CODE	QUANTITY REQUIRED	DIRECT LABOUR: PIECEWORK PRICE	PER	PIECEWORK COST	SUPPLEMENT	TOTAL DIRECT LABOUR COST	PRODUCTION OVERHEADS: RECOVERY RATE	COST	CUMULATIVE TOTAL COST
1	Assemble and CO_2 Weld.	76									
2			1	66d	100 /	£0.275	52%	£0.418	253%	1.058	1.476
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
F.1											
F.2											
TOTAL CONVERSION COST								0.418	—	1.058	1.476

Appendix 1

List of references

(1) Cournot, Augustin, Recherches sur les principes mathematiques de la theorie des richesses. Paris 1838. English translation by Bacon, N.T., New York; MacMillan 1927.

(2) Edgeworth F.Y. Papers relating to political economy. MacMillan 1925. Vol. 1 pp. 111–42

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Appendix 2.

Questionnaire

Subject : Price policy and price decisions

Part A : This section is concerned with general information about the company. — Please tick the appropriate line

Q.1. Size of company: number of employees

- 1- 50 ________
- 51-100 ________
- 101-250 ________
- 250+ ________

Q.2. Company Objectives

long term

- growth ________
- profitability ________
- stability ________
- continuity ________
- others ________

Q.3. short term

Financial
- ____% on capital invested ________
- ____% on capital employed ________
- ____% on turnover ________
- ____% on value added ________

Q.4.

Marketing
- ____% share of market ________
- £ ____ turnover ________
- ____% turnover ________

Part B For this part of the questionnaire please choose, if possible one product (or group of products) for which no formal price list is issued.

Q.5. Price policy : Does company policy appear in written form

- Yes ________
- No ________

Q.6. Price policy is
- a. to be competitive ________
- b. to use Full Cost + ____% ________
- c. to use Marginal Cost + ____% ________
- d. to charge what the market will bear ________
- e. the following combination ____+ ____+ ____+ ____ of the above.

Q.7. Price policy is decided by
- a. Board of Directors ________
- b. Managing Director ________
- c. Marketing Director ________
- d. Other ________ ________

Q.8. Price decisions are taken by
- a. Managing Director ________
- b. Marketing Director/Manager ________
- c. Cost Estimator ________
- d. Salesman ________
- or other e. ________ ________

Q.9. What are the main factors which influence the actual price decision? Please mark in order of merit i.e. No. 1 for most important
No. 2 for less etc.

Competition ________

Amount of work on hand ________

Costs ________

Market Opportunity ________

Q.10. What are the main factors which influence the customer? Please mark in order of merit i.e. No. 1 for most important etc.

Quality ________

Delivery ________

Price ________

Service ________

other ________

Q.11. What do you consider the most significant thing you could do to increase

a. profitability

and b. turnover

Q.12. Name of Company