

METHODS OF EVALUATING THE COSTS AND BENEFITS  
OF TRAINING IN THE DISTRIBUTIVE INDUSTRY  
IN GREAT BRITAIN

BY

STEPHEN JAMES SCOTT HART, M. A. (Cantab.)

SUBMITTED FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

AT THE UNIVERSITY OF ASTON IN BIRMINGHAM

FEBRUARY 1978

15 DEC 1976

227324

THESIS

658.788 HAR



## SUMMARY

### Methods of Evaluating the Costs and Benefits of Training in the Distributive Industry in Great Britain.

The research took place under the sponsorship of the Distributive Industry Training Board, and a background to the distributive industry and the D.I.T.B. is described. Various reasons for assessing the value of training are discussed, and criteria are established for choosing the training to be studied.

The place of cost/benefit assessment is considered in the context of accepted models of evaluation, and it is found that the two main problems involved are the measurement of results of training, and the contamination of these results by other factors; various other difficulties are also identified.

A model is developed for comparing the costs and benefits of training, with a view to estimating optimum levels of training, and a system described for costing and budgeting training in distribution.

Previous research into cost/benefit assessment of distributive training is described, and the applicability of the model to these studies is tested. Details are then given of the research carried out into training in bacon preparation, customer relations, management development, sales and vocational preparation, and into the setting of training priorities. The model is tested in these areas, and found to be applicable, though with certain reservations.

The research shows that training can be cost effective in certain instances, but that every activity needs to be evaluated individually, and that various principles must be borne in mind by the evaluator. Thus not all results will be identified, estimation should be carried out conservatively, statistical approaches are seldom appropriate, and greater management motivation for the activity is required. A practical approach to evaluation for management is described, together with its feasibility in the distributive industry.

Finally, evaluation is justified as an activity, by reference both to previous literature and to the case studies of this research; and recommendations are made for making these results known, and for carrying out further studies.

Key words: EVALUATION COST/BENEFITS TRAINING DISTRIBUTION

## CONTENTS

	Page
Summary	2
Acknowledgements	4
Chapter 1 The Distributive Industry and Training	5
Chapter 2 Approaches to Evaluating Training	37
Chapter 3 The Evaluation of Training	75
Chapter 4 The Costs and Benefits of Training	114
Chapter 5 A Costing System for Distributive Training	153
Chapter 6 Cost/Benefit Studies in Distributive Training	179
Chapter 7 Training in Bacon Preparation	214
Chapter 8 Customer Relations Training in a Department Store	249
Chapter 9 Management Development at a Multiple Wholesale and Retail Company	275
Chapter 10 Sales Training in a Multiple Furniture Retailer	300
Chapter 11 Unified Vocational Preparation	318
Chapter 12 Determining the Priorities of Training	343
Chapter 13 Conclusions of the Research	373
Chapter 14 The Justification of Evaluation	426
Chapter 15 Recommendations	453
Appendix 1 Analysis of Training by a Sample of Levy-Payers	463
Appendix 2 Customer Relations Training - Pro Formas	469
Appendix 3 Management Development - Pro Forma	471
Appendix 4 Furniture Sales Training - Observations, and Pro Forma	475
Appendix 5 Rating Scales for Unified Vocational Preparation	481
Appendix 6 Priorities of Training - Pro Forma	485
Bibliography	486



## ACKNOWLEDGEMENTS

I owe debts of gratitude to a large number of people who have assisted me in the production of this thesis. My wife Valerie has contributed in great measure by her patient encouragement over the last three years; and my daughter Caroline, who has never known a father not engaged in the worries of research, has developed a patient, if not totally encouraging, attitude, in the short space of a year.

At Aston, Stan Hill, Mike Hussey and Dr. Rob Stammers have digested and commented on hundreds of thousands of words, and assisted in directing the research to the most productive goals. The secretarial and administrative services of the Interdisciplinary Higher Degrees Scheme have been invaluable, and I am indebted to Heather Billington, Gwen Saunders, Lorraine Walkinshaw, Lynda Winchurch and others for their help.

Tony Parkinson, at the D.I.T.B., has had the difficult task of ensuring that an academic investigation would produce results of some value 'in real life', and has similarly encouraged me through difficult times. His staff I must thank for their advice and interest, and perhaps in particular Gill Twigg and Trish Hardy for their secretarial help, Jim Freeman for his assistance on the statistical parts of the research, and Karen Griffiths for hers on U.V.P. training. Also, at the D.I.T.B., Liz Essex and Sue Hobson conducted the U.V.P. training despite my constant interference, Freddie Millard gave advice on the accountancy involved, and Nancy Wright and her librarians were an always reliable source of information. And the thesis would not have seen the light of day without Helen Wilson, her long suffering typists and Ken Acton's reprographic unit, all at the head office of the Board.

Finally, I must mention the staff of the many firms who have collaborated, either by their comments and information, or by permitting me to use their facilities. To mention by name Terry Freegard, Chris Spencer, Ian Frith, Alan Martin, Alice Akehurst, Mary Burnside, Keith Gallon, Brian Hodgson, Phil Jenkinson, Gillian Gilpin, John Wardle and Alan Forrest is to give only a representative selection of the numerous individuals without whom the research could never have taken place.



## THE DISTRIBUTIVE INDUSTRY AND TRAINING

"Distribution should undo excess,  
And each man have enough".

(Shakespeare, *King Lear*, 4.1.71-2)

*In the first chapter, the distributive industry is briefly described, and the background to the Distributive Industry Training Board is discussed. It is noted that data about this field is sometimes inadequate, either because it is insufficiently detailed or because the definition of 'distribution' varies from one body to another. Some of the D.I.T.B.'s priorities, activities and objectives, are considered, one of which is the evaluation of training. Conclusions are drawn from various sources about the quality of training in the Industry and the degree to which the DITB has influenced this; these cannot be fully accurate, however, because of the nature of the information available.*

### 1.1. The Distributive Industry

1.1.1. The term 'distribution' refers to a wide range of activities within the British economy. Its major constituents are the retail, wholesale and mail order sectors, although it includes various other functions, such as importing, credit trading, renting and hiring. These are generally characterized by the intermediate role they play between the producers and the consumers of goods (or, in a few cases, services). While problems of definition will shortly be seen to exist in this field, it can be said that by far the largest function is retailing,



which, at one estimate in 1971, comprised more than two-thirds of the organisations in distribution (I.M.S.,1973), and employed, by another estimate, almost 70% of all workers in this economic sector in 1975 (C.S.O., 1976).

The word 'industry' is sometimes used to describe this sector, although it is perhaps a doubtful usage, partly because of this range of activities, and also because of the nature of the work carried out in distribution. Common usage excludes the term 'industry' from activities which do not involve manufacturing or mechanical process (except in its original sense, meaning 'hard work', which is not what is intended here). Indeed, such a distinction as there may be between 'industry' and 'business' or 'trade' usually revolves around questions of mechanical process or production. As terms of economics, production is specifically what distribution is not. However, because most alternative words ('trade', 'business', 'sector', and so on) are also open to semantic objections, and for convenience, the convention of describing distribution as an 'industry' will be followed in this thesis - but with a full appreciation of its looseness.

1.1.2. The functions within the industry can themselves be sub-divided into a number of different categories. The most common classification is based on the one described as "form of organisation" by the Census of Distribution (Department of Industry, 1975). This Census, which has taken place approximately every five years (but most recently in 1971), provides some statistics for the industry; but they are not up-to-date, and they deal with only one definition of 'distribution' (not the one generally to be used in this thesis - see 1.3.1.) 'Form of Organisation' divides the sector into 'co-operatives', 'multiples' and 'independents'. While this may have some limited value for statistical and planning purposes, it suffers from the major shortcoming, that these three categories are not distinguished by a consistent criterion, and that thus they are, logically, not mutually exclusive. The distinction between multiples and independents is based on the criterion of size; multiples have ten or more trading units, while independents have less than ten. The distinction between these two groups and the co-operatives, on the other hand, is based on the criterion of ownership, as co-operatives are owned by a number of their consumers.



Consequently, to produce mutually exclusive groups, one has first to consider the method of ownership of each organisation - this establishes which are co-operatives; and then to consider the size of the organisations which remain, to determine whether each is a multiple or an independent. The objection to this is not simply one of logic. It is highly questionable whether the three groups so established are homogeneous, or whether their distinction reflects any differences in business or management methods.

Co-operatives, which have traditionally covered the whole range of retailing establishments, have recently tended to develop their businesses along typical 'multiple' lines (Corina, 1974). Meanwhile, many independents have expanded in the conventional way, by opening new branches; this implies that they become multiples at the sudden point when their tenth branch opens. The term 'independents' already covers a heterogeneous group ranging from a one-man corner shop to a chain of nine department stores (besides businesses outside retailing). Thus the statistics given by the Census of Distribution to show that 'multiples' increased their share of the distributive sector's manpower from 25% to 32%

between 1961 and 1971 can be given only limited significance, even though the Census does provide a sub-classification by type and mixture of goods sold.

1.1.3. Conventional classifications are being questioned at present by, among others, the Business Statistics Office (U.R.P.I. 1977) and the Distributive Trades E.D.C. The main need for this derives from the change which many parts of the distributive sector are undergoing. A detailed history is not needed to make clear that the last twenty years have seen very swift changes in business and management styles. The typical large retail organisation in Great Britain is the one that started as a small 'independent' in the nineteenth century, and is now going through further developments since it has become a multiple or large independent. In the series of articles by Wood in Co-operative Management and Marketing between 1974 and 1976, over 85% of companies discussed (or a major component) were founded between 1775 and 1914. As far as business style is concerned, units are tending to be of larger size; customer self-selection has become regular rather than exceptional; more wholesalers are catering also for the private consumer market; and more cash-and-carry wholesaling takes place. The composition of the staff



is changing, as a greater proportion of women are employed; they have predominated since 1953 (I.M.S., 1973), and by 1974 comprised two-thirds of all staff in retailing (D.T.E.D.C., 1976), and perhaps some 60% in the whole industry. Related to this is the high number of part-time staff - some 41% in retailing in 1974 (D.T.E.D.C., 1976), falling to roughly 28% over all sectors, according to one D.I.T.B. estimate.

The distributive industry has also had to come to terms with the consumer movement and legislation, which has developed since the 1950's into a network of governmental, semi-official and voluntary organisations (Hadden, 1975). This is one of a number of factors that have obliged firms to keep books and control stocks with more detail and accuracy (others include fiscal changes such as S.E.T., decimalisation, V.A.T. and profit/price controls, and 'social' changes such as increased theft, for which prosecutions and cautions in England and Wales increased from 70,000 in 1971, to 107,000 in 1975 (U.K., Hansard, 1977)). In turn, this has involved greater mechanisation (Shingleton, 1974), although the opportunities for this are sometimes limited. There are some suggestions that the speed of change

will increase, as the move from town centre to out-of-town shopping progresses (Gammie, 1975); for the U.K. has lagged behind much of Western Europe in the developments of both hypermarkets (Retail & Distribution Management, 1975) and 'regional' or suburban shopping centres (White, 1976, and Gammie, 1975), partly because of central and local government reluctance. All commentators note, however, that these changes are still heavily dependent on government activities, so the future is by no means certain.

## 1.2. Management and Training in Distribution

1.2.1. One conclusion, nonetheless, that is certain relates to the need in distribution for advanced management practices which can anticipate, and cope with, change. These must, presumably, include training techniques. Yet it would be generous to suggest that there has been a widespread tradition of good management practice within the distributive sector. Some of the reasons for this are evident.

1.2.2. Just under one-eighth of the total workforce of Great Britain were comprised in the sector in 1973, according to an estimate of the Distributive Trades E.D.C. (1975), although another estimate within the D.I.T.B. put their number at two million in 1976,



while the total workforce of the country was over 25 million (Central Stat. Office, 1976). That would put the estimated proportion at some 8%; while this may be taken as a comment on the variations in statistics and the differences in definition of 'distribution', it is evident that distribution is a major component of the economy. In the retail sector alone, there were reckoned to be just under 500,000 operating units in 1971 (D. of I., 1975), though this figure had declined through the 1960's.

It will be clear from these figures, that the mean number of staff per retail unit is in the region of four. Even though another estimate (D.I.T.B., 1974) put the total number of units in the whole distributive sector at 454,000 in 1974, this still puts the mean payroll per unit at no more than five. Again, in 1966 it was estimated that 77% of retail establishments have a staff of four or less (Malt 1966).

Certainly, many of the larger companies operate a substantial number of units; but the proportion of small companies far outweighs this. The total staff of the typical company is not much greater than the typical unit. The estimated 454,000 units were run by approximately 334,300 firms (D.I.T.B., 1974 a),

so that the mean staff size per firm would be less than seven.

- 1.2.3. These statistics are not always easy to acquire, they are in some cases open to question, and they relate to different dates in a period when, it has been noted, there has been a change towards larger units. Nonetheless, the underlying fact is not in doubt: distributive firms and units are typically very small. Most companies would be too small to employ staff trained in management, still less specialists in management services such as training.

In these circumstances, the quantity and quality of training in distribution might be expected to be less than adequate; such evidence as there is will be seen as tending to confirm this. The phenomenon is aggravated by other factors, such as the high part-time element in employment, already mentioned. Also, most jobs in the sector do not involve advanced manual skills, so that there has not been any tradition of the type of training that characterises many manufacturing industries (Lawrence, 1973). The desirability of training has, therefore, been difficult to show in many cases, and this is further aggravated by other trends. For instance, as self-



selection has increased, there has (in the view of some) been a tendency for many jobs to decline in skill; one might say that, while job enrichment has been spoken of in many industries, some distributive jobs have become impoverished (Lewis & Steed, 1977). On the other hand, the status and skill requirements of many jobs had always been low (J Woodward, 1960), and another opinion suggests that the common trend is for jobs to become 'enriched' by encompassing a greater range of skills than previously.

- 1.2.4. As a result of shortcomings in staff conditions and management practices, the industry has become well known for its high level of staff turnover (I.M.S., 1973). Casual experience suggests that this is partly the result of poor induction and management. A vicious circle has sometimes existed, in which low employee motivation led to high turnover rates (Pearson (1974) noted that these were highest in retailing, suggesting a relationship to the smaller units and the less skilled jobs in this sector); and this led to an even more poorly trained staff, who were themselves dissatisfied and unmotivated. Jenkinson (1974) has shown that, when the present research began, rates of 52% wastage within twelve weeks were typical, even in a large retail company

which could benefit from management specialists and training. Furthermore, the wastage rate in most branches followed a predictable pattern; its lognormal distribution was linear, which studies in other industries have established as to be expected (Stainer, 1971; Lane & Andrew, 1955).

- 1.2.5. A review of management and training in distribution, therefore, does not have particularly encouraging conclusions. It would not be valuable, though, to analyse conditions or trends in any greater detail, because any comments are, inescapably, generalisations; and it is questionable how widely applicable such generalisations can be. It should be clear that the distributive 'industry' is heterogeneous, containing a wide variety of organisations and employees.

### 1.3. The Distributive Industry Training Board

- 1.3.1. Despite the questionable nature of the term 'distributive industry', there has, since 1968, existed a body called the Distributive Industry Training Board (D.I.T.B.). This was set up as a result of the particular model of the national economy used in the Industrial Training Act 1964. This enabled a training board to be established in each 'industry' into which the act perceived economic activity as being divided.



One of the many problems associated with establishing the Boards was defining an 'industry' (Garbutt, 1969), and the D.I.T.B. was one of the later Boards to come into existence.

The activities within the scope of the D.I.T.B., while consisting broadly of the economic sectors described above, have never been conterminous with the activities covered by other organisations concerned with distribution. Thus the Census of Distribution covers a field which can be described as no more than overlapping that of the D.I.T.B., and the Distributive Trades Economic Development Committee covers a different field again. The D.I.T.B. is not concerned with retail firms dealing solely or mainly in certain fresh foods (U.K., S.I. 1968 and 1971), which are the concern of the Food, Drink and Tobacco Industry Training Board. There are consequently a certain common interest and an overlap, with this board and with other official bodies - just as there are, to a lesser extent, with various other training boards, such as the Hotel and Catering Industry Training Board.

If the scope of the D.I.T.B. does not correspond with that of other public bodies, still less is it

equivalent to that of less official organisations, such as the Retail Consortium, the Union of Shop, Distributive and Allied Workers, and the many trade organisations within distribution. The sketch of the distributive industry given in sections 1.1 and 1.2 is not, however, greatly affected by these discrepancies; it was based, as far as was possible, on the activities within the remit of the D.I.T.B., which is how the distributive industry is defined for this research.

1.3.2. When the current research started in 1974, the D.I.T.B.'s head office was established in Old Trafford, Manchester, and the Board operated through four regional and 16 area offices, spread throughout Great Britain. It employed the following numbers of staff (D.I.T.B., 1973, 1974b, 1975a, 1976): 389 (1974), 466 (1975), 450 (1976), 455 (1977). The main increase during the early part of this period was among the training advisers in the field; the total field force more than doubled in two years, from 92 in 1973 to 204 in 1975 (D.I.T.B. 1973, 1975a). This increase reflects the D.I.T.B.'s appreciation of the need for close personal contact in such a dispersed industry, and for assistance in providing training advice for small units, where a need existed, in the view of



some, for state assistance in management services on a wider scale still (G. Wood, 1974). The C.B.I. is on record as arguing that advice and consultancy should be the main functions of the training boards (Bury, 1971).

Despite an emphasis from the start on field contact, it was evident that it would be administratively impracticable for the D.I.T.B. to maintain a relationship with all firms legally within its scope and in particular with the smallest organisations. Many of its policies were not considered appropriate to the needs of firms below the cut-off point. Consequently, when the levy/grant system was applied, only firms with emoluments of a particular size were made to contribute to its levy, which stood at a rate of .7% throughout the present research (D.I.T.B. 1973, 1974b, 1975a, 1976). The cut-off point was set at ten employees during this time. This seemed an appropriate level, in that it appeared that 90% of the companies above this size did carry out at least some form of training, however casual (Hutt & Atkinson, 1975); the D.I.T.B.'s own information from grant claim forms put the estimate lower (D.I.T.B. 1973), but that represented "minimum" rather than actual figures.

The cut-off point was also expressed in terms of total emoluments of an organisation, in that an alternative reason for exclusion from levy was a total pay bill of less than £6000 (1973), £8000 (1974), £11000 (1975), £13000 (1976), or £15000 (1977) (D.I.T.B., op.cit.). In addition, any small firms still included have been assisted by an abatement of levy of £3000 (1974), £5000 (1975), £6000 (1976) or £7000 (1977), which sharply reduced the levy payable by companies with pay bills only slightly above cut-off. In 1974, the D.I.T.B. estimated that the cut-off of 10 employees reduced the number of firms with which they had to deal to some 5% of the total (14,300 out of 334,300), but still included roughly 69% of all employees (1.55 million of the total of 2.25 million), employed in approximately 64,000 establishments (D.I.T.B., 1974a).

- 1.3.3. The D.I.T.B. also developed priorities which it felt reflected the problems of the distributive industry. When it published these soon after being set up (D.I.T.B., 1969), the main stress was on a systematic approach to training, and then on training that arose from applying the system. As far as specific types of training were concerned,



prime importance was given to management and supervisory skills and knowledge. This confirmed some previous findings about shortcomings in the industry. Joan Woodward (1960) has noted that there was "little to encourage the development of supervisory activity" in the department stores she studied; and wholesalers in the 1960's were regretting the lack of competent supermarket managers, on whom they could depend for their custom (Briscoe, 1967). At least one supermarket company imported management on a large scale from North America, because the skills did not appear available locally (Hill, 1966).

Management and supervisory training were seen as two out of eight areas of training which the D.I.T.B. recommended. The others were occupational skills, specialist knowledge and skill, social skills, product knowledge, relevant education and company knowledge.

This provides a broad classification for the kind of activities that are carried out in the industry, although (as will be seen in 2.2) it is not sufficient as a total taxonomy of training.

1.3.4. Amongst the other activities which the D.I.T.B. encouraged, may be mentioned training in instructional techniques. Because a sizeable proportion of training in distribution has to be carried out on the job, it was seen as important that instructors should be properly qualified to train at work, and this has been one condition of grant payment from the start; at first, also, the full cost of instructor courses was reimbursed by the D.I.T.B. (D.I.T.B., 1969). Trained instructors are especially needed among small work groups, where the loss of a single individual, for training or any other reason, reduces the manpower by a greater proportion than in larger groups.

This training does not fall easily into the classification of training just mentioned, but it is presumably partly a supervisory and partly a social skill. The creation of a body of trained instructors was intended to provide teaching and training skills at the place of work, so that information and skills could be passed on without the need for long periods of training off-the-job. It was reasonable to suppose that trained instructors teach more efficiently than those untrained, and this appears to be accepted as an article of faith by many distributive training officers. There was a little, inconclusive,



evidence to support it (Crossley, 1969), which is discussed in 6.1.9 infra; but the area needed more fundamental assessment.

1.3.5. In passing, the concept of the 'training group' may be mentioned, as another activity encouraged by the D.I.T.B. These groups were developed as a means of bringing together firms whose size permitted them to have only limited training resources. By joining with other firms they could afford to obtain these resources and hence train their staff, in general more cheaply and more relevantly than if they used outside courses. In the case of some groups (some 15% of the total) there was a formal organisation and a full-time training officer. Other, informal groups were subsequently encouraged, formed by training managers and businessmen wishing to pool their training; in many cases, D.I.T.B. staff did some of the administrative work for these. In May 1975, there were 140 informal groups set up under the D.I.T.B.'s auspices; an estimate at the same time set the total number of group training schemes in all industries at 700 (The Economist, 1975). As it is not clear how formal these 700 were, it cannot be said with certainty what proportion of them were in scope to the D.I.T.B. but it is clear that this one

training board was very active in this area.

Little work had been done to investigate the value of these groups, but they were generally felt to play a significant part in the development of training.

- 1.3.6. Another need recognised by the D.I.T.B. was in the general area of research and development. In 1971 the Board commissioned a survey by the Institute of Manpower Studies at Sussex University, who produced a report in 1973 (from which much of the data in this chapter has been taken). One of the recommendations of the I.M.S. report was that the D.I.T.B. should establish a Unit to update the information continually, 'to digest and utilise this information on a full and regular basis', and to analyse further the trends that were taking place in distribution (I.M.S., 1973).

Accordingly, a 'project unit' was established, as a member of which the present researcher worked. Its terms of reference were laid down by the D.I.T.B. in its five-year plan (D.I.T.B., 1974a). Among these, four may be worth mentioning:

- a. To maintain and develop the I.M.S. survey on structure of the industry.
- b. To ~~conduct~~ research into special needs and methods of particular sectors or occupations in industry.



- c. To carry out research into the training and development of young people in the industry.
- d. To conduct research into special methods of measuring results and evaluating training.

This last objective had been a concern of some D.I.T.B. members since its foundation. However, there was doubt about the contribution that training made to profits, or indeed about how cost-effective training was at all. Especially in fields like management training, a relationship to profitability is generally, in many industries, either taken on faith or questioned (see 13.3.7.), but seldom proved. Some such doubts were echoed by the I.M.S. (1973):

"Three-quarters of the firms in the industry claim that they are undertaking training of some kind for their staff which is relevant to their needs. We are, of course, sceptical about the value of much of this training, both to the employer and to the employee."

The research carried out towards this objective includes the present studies, and another project to be discussed in due course (see 6.1.10., *infra*).

#### 1.4. The Quantity of Distributive Training

1.4.1. Doubt has already been cast on the amount of training carried out in the distributive industry (see 1.2.3. supra). Yet there is some difficulty in establishing exactly how much training took place, what form it took, how it was distributed, and what increase there had been since the D.I.T.B. was founded.

Although the D.I.T.B. required any levypayer claiming grant to complete a form with details of his training activities, there was never any need for him to provide an exhaustive list. The D.I.T.B. has not been one of training boards which allocated grant according to the quantity of training carried out (Dixon, 1975); the criteria always concerned such things as the proportion of staff trained and the range of trading. Hence a levypayer had only to record a certain minimum amount of training, so that the absence of a mention of certain training on a grant claim did not prove the absence of that training. The size of grant might provide a rough comparative assessment of training activity in different firms, but, as D.I.T.B. annual reports say, the data represents merely a minimum level of activities (D.I.T.B. 1973, 1974b). In addition, the number of levy payers who chose to claim any grant at all was



not large. In the levy period 1972-73, four years after the D.I.T.B.'s establishment, only 22% of levy payers claimed grant (I.M.S., 1973); although this increased during the research to some 60% in 1976-77 (D.I.T.B., 1977) it was still far from total.

- 1.4.2. One point of general agreement was that the larger an organisation, the greater its tendency to carry out training, in the formal sense of the term. This common view was based on staff experience, and was confirmed both by the I.M.S. survey and by the present researcher.

In the first place, larger companies were much more likely to claim grant. The 78% of levypayers who made no claim in 1973 (see 1.4.1. supra) consisted largely of firms with a total pay bill of less than £25,000. Only 13% of this group (and this excludes companies below the cut-off point for levy) claimed grant while, at the other extreme, 94% of the firms did so if their emoluments totalled more than £500,000, (I.M.S., 1973). This might in part reflect the greater amount of levy that the larger companies stood to lose, but the I.M.S. survey also established that a real difference in training activity was also involved.

In the case of off-the-job training, external courses and further education, I.M.S. found a clear relationship between amount of training and number of employees. With on-the-job training the situation was less clear-cut, as the difference in the proportions of firms carrying out training was negligible between the largest companies and all those with over 25 employees. Only amongst the very smallest organisations was there significantly less on-the-job training, but still almost 60% of those with ten or fewer employees claimed to be carrying out some (Hutt & Atkinson, 1975).

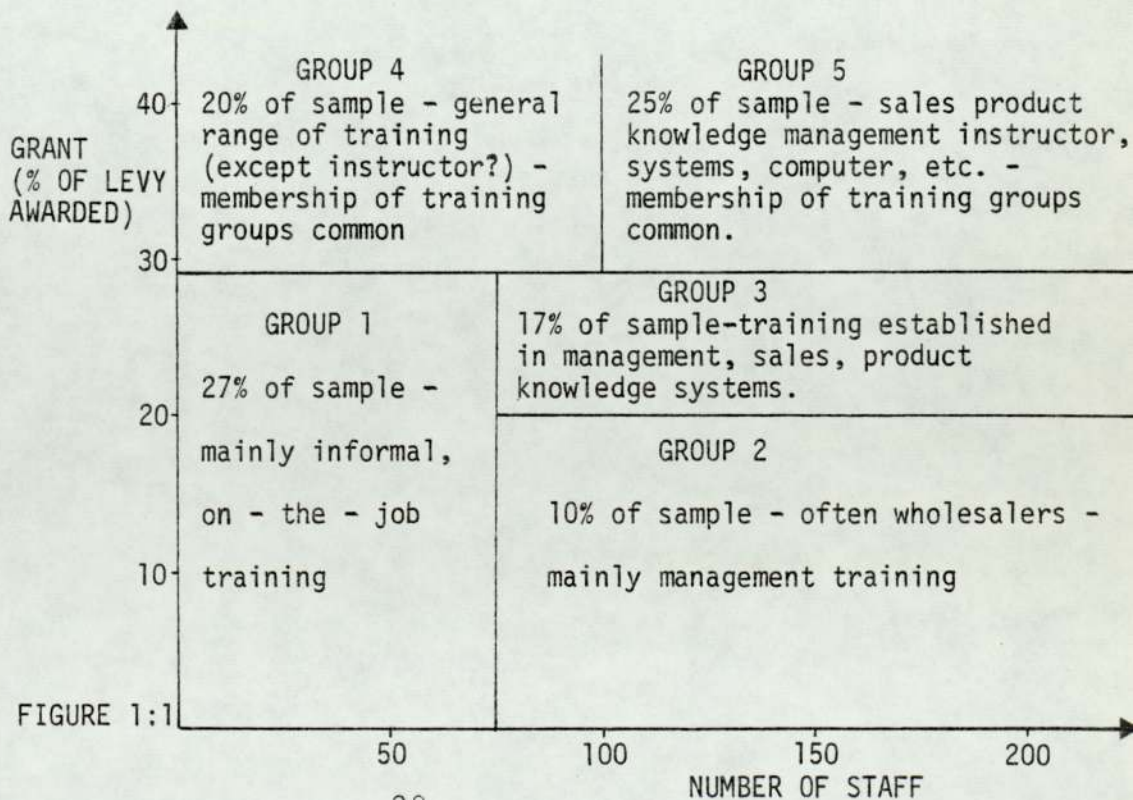
The difference between companies' on-the-job training seemed to be one of type. The smallest firms concentrated on personal supervision, while formal training predominated among the larger ones (I.M.S., 1973).

- 1.4.3. As part of the preliminary studies for the present research, a small sample of grant claim forms was analysed. These related to 40 levypayers from one of the D.I.T.B.'s regions, a sample too small to provide statistically significant information. But the survey did serve its purpose, of confirming the pattern of training described by the I.M.S. research some three years earlier, and of suggesting what types of management and operative training were typical of various types of company.



Details of the sample and results are given in Appendix 1. It appeared that the companies fell into five groups, according to their number of employees and the amount of grant received, which are summarised in figure 1.1. As has been noted (1.4.1. supra), the amount of grant awarded gives a rough indication of the relative amounts of training activity in different firms.

A certain, though not very marked, relationship between number of staff and grant awarded can be noted here. More important was the tendency for the firms to fall into five groups, with somewhat different training activities. As I.M.S. had found, the majority of the smallest companies concentrated on on-the-job training, and carried it out informally (Group 1). Various other conclusions will be considered below.



1.4.4. As far as the quantity of training is concerned, it is not even clear whether there is any difference between the various sectors of the industry. Hutt and Atkinson (1975) noted that wholesalers tended to train rather more than retailers. This might appear to contradict the findings in figure 1:1, where group 2, whose training activity was not great, consisted mainly of wholesalers. However, they comment that the difference between wholesale and retail may be more a function of size than of type of business; there are fewer very small wholesalers (and they tend to be less labour-intensive), and one notes that group 2 consists of the larger companies whose training is relatively small. Hutt and Atkinson's conclusion is that 'the pattern is very similar for both retail and wholesale firms'. The I.M.S. survey did, on the other hand, note that, among medium-sized firms, retailers tended to take more "training actions", i.e. assess training needs, design formal plans, appoint training officers, give responsibility for training to a senior executive (I.M.S., 1973).

1.4.5. The fact remains that little is known about the quantity of training in the distributive industry.



and that most conclusions are based on minimum figures provided from D.I.T.B. records, and on the subjective experience of those involved. The I.M.S. survey, the study described in 1.4.3. and Appendix 1, and such passing comments as exist in the literature on the subject do sometimes reach the same conclusions. Thus Lawrence (1973) felt that the need for training was more appreciated in the management area, and one notes in figure 1:1 that that is the one area covered by nearly all the larger companies. Crossley (1969), on the other hand, confining herself to retailing, found evidence in a small area to suggest that there was a lack of training for staff outside the job of selling.

1.4.6. In addition, it is difficult to judge what effect the establishment of the D.I.T.B. has had on the distributive industry. The individual training boards were, of course, set up to improve both the quantity and quality of training; and, in particular, the levy/grant system was designed to act as an incentive to more worthwhile training. Evidence from grant claims suggests that the D.I.T.B has done this; so does success of levy exemption, and of the Distributive Training Award scheme which the Board set up to encourage firms to train. Yet it is difficult to distinguish the effects of more training from those

of greater willingness of employers to make claims about their training.

Using the limited evidence provided by grant claim forms, it seems that, put roughly, the number of qualified training officers and instructors increased from 10,000 in 1969 to 55,000 in 1975, and the number of staff covered by a written appraisal increased from 350,000 to 580,000 in the same period. So there appears to have been an increase in training following the establishment of the D.I.T.B., at least as far as systems are concerned. In the case of actual training carried out, the figures are more ambivalent. Thus the number of staff undertaking training in occupational skills (that is, over the basic requirement of 18 hours) was estimated at 630,000 in 1972 and 550,000 in 1975. Such discrepancies are probably due more to different methods of recording information (D.I.T.B., 1973, 1974b, 1975a, 1976) than to actual reductions in activity, but they illustrate the problems involved in trying to establish quantified data on this subject.

This is unfortunate; for it means that the relative quantities of different types of training cannot



feasibly be estimated. This prevents any approach to determining the priorities of evaluation by considering the amounts of training carried out. It will be seen in 2.2.infra, that the absence of a workable taxonomy of training is a further aggravation here.

- 1.4.7. There is some doubt whether, in the economy as a whole, the levy/grant system has been successful (e.g., Lees & Chiplin, 1970), especially among smaller firms (Pettman, 1971 and 1974). Pettman's figures suggest that only 30% of small firms considered levy/grant as an incentive, although some 53% of firms in training groups did. Since one would expect those in group schemes to be motivated towards training, it is difficult to know what interpretation to place on the figure of 53%. However, unless one argues that these firms are often already training-oriented, and therefore need no further motivation from any financial system, the percentage seems rather low. In his later study he did find a figure of 69%.

Though hard evidence is not easy to find, it does seem generally agreed that the training boards' existence gave a 'once-for-all' push towards training (Lees & Chiplin 1970; Woodhall 1974). Hartley and Mancini (1971) describe a 'shock effect' in making companies

in the hotel and catering industries more conscious of training; and this is in an area in some ways comparable with distribution - a service industry, with many small units, comparatively low proportions of full-time staff and those with long employment, and so on. Woodward (1976) also concluded that demand for training had increased "either by shock effect or by the grant/levy policy", although that was in a different, rather specialised field, of engineering apprenticeships.

It also seems likely that levy/grant may have assisted general training (in the sense of training which is useful to employers other than the one for whom the participant is working), and this would be predictable from an economic analysis (Lees & Chiplin 1970; Moreton 1973; Oatey 1970). This certainly relates to the priorities of the D.I.T.B. as evidenced by, for instance, the key grants awarded for training in certain subjects of general use.

- 1.4.8. Doubt over whether training grants had provided further incentive was one of the considerations which led the government to revise the Industrial Training Act. The Employment and Training Act 1973 (U.K. 1973, c.50) required the training boards to exempt



firms from paying levy where their training was considered adequate, and to remit part of the levy where only some aspects were adequate.

Some discussion has taken place on the precise meaning of "adequate". The 1973 act requires training to be "adequate for those establishments" (i.e. the employing firms) (p.26), but also expects exempted firms to "make arrangements for the training" in "activities which are or are expected to be carried on at the establishments of the employers". The phrase "are expected to" appears to entitle the I.T.B. to enforce their own criteria in addition to those which the employer may feel 'adequate' for his own establishments.

No doubt there was an element of compromise in the policy of levy exemption between those who wanted the levy/grant system totally abolished and those who thought it valuable. During the last year of the present research, the D.I.T.B. has been developing a new levy remission and key grant system. It will be seen that this had an effect on one of the studies carried out (12.3.7. infra).

1.4.9. During the early 1970's, other economic factors assisted the D.I.T.B. in developing conditions to encourage training. There seems to have been a tendency for firms to become less labour intensive (Hurley,1971). The factors encouraging this trend included inflation, selective employment tax (until 1973), and trade union activity (distribution has traditionally been less unionised than other industries, partly because of the isolated nature of many of the small units). These increased labour costs, encouraged a restriction in staff numbers (in parallel with the increase in self-selection), and in turn demanded increased productivity from the staff who remained.

Yet, any drive for greater productivity may have an ambivalent effect on training activity. On the one hand, training may appear a comparatively short-term investment, as the self-evident source of more or less quick savings, and thus as an activity to be stepped up. This appears to be the reasoning behind current policy of increasing state aid to training, especially in a time of recession. On the other hand, training may seem an expendable luxury, wasting valuable money when times are hard; and perhaps this



is especially so when the proportion of part-time staff is increasing, for many of the same reasons as those causing firms to be less labour intensive.

With the limited data available, it seems as though the existence of the D.I.T.B. has been accompanied by some increase in the quantity of training; so the former view has presumably tended to prevail. But, of course, there is a middle view between these two, which tries to distinguish between the training that is a wasteful luxury and that which is a sound investment. This suggests a need for some sort of cost/benefit evaluation of training activity, which the D.I.T.B. had set as one of the terms of reference for its Project Unit (D.I.T.B., 1974a). To do this, however, it was necessary to consider what sort of training should be evaluated, and what approach should be used.

APPROACHES TO EVALUATING TRAINING

"Ignorance of men is the only thing in the world that costs more than training"

(John F Kennedy)

*This chapter considers what approaches might be most suitable for a study of the costs and benefits of distributive training. It notes that there are few fields of training which are distinctive of the industry, although some represent predominant activities, and the importance of others is changing. While it is felt that the emphasis of the research should be on how much training is to be carried out, the choice of the type of training to be studied is hindered by the absence of a satisfactory taxonomy of activities. It is concluded that the only practicable classification of the training is one based on subjective experience. The general terms of reference of the research are determined to be that it should cover a range of training, and should respond to the demands of employers for evaluation; it seems likely that it will take place largely in the bigger firms in the industry, and be directed towards more formal training. A description is then given of approaches to a number of firms and other organisations, to investigate the demand for evaluation and to test its feasibility. Unsuccessful attempts at evaluating various courses took place in a training group, a wholesale news distributor, a department store, two multiple supermarkets, two mail order companies, and an industrial wholesaler. While these are described, the feasibility of various conjectural approaches to training is considered.*



## 2.1 The Distinctive Nature of Distributive Training

2.1.1. It is difficult to specify exactly any distinctions between training in the distributive industry and training other sectors of the economy. One of the problems is the lack of systematic information about what training is being done, and in what quantities. This has already been considered in Chapter 1. Additionally, it cannot be taken for granted that distributive training is different from training elsewhere. Distribution is, for all its idiosyncratic features, organised on largely the same basis as other industries, with its management, clerical, technical, commercial and other functions. Certainly, some jobs are much more or less common in distribution than elsewhere, but it is doubtful whether any function or job is distinctive; and, consequently, the same applies to any training.

At the same time, we can give examples of specific areas which are particularly important in distribution. One of these is customer contact skills: sales, handling complaints, letter-writing and telephoning, product knowledge and so on.

It is a matter of debate whether this is an important area for training, and so it would seem to be worth evaluating. For one thing, it is possible to argue that such skills are becoming less significant as self-selection increases in both retailing and wholesaling (although one might conclude from this that most customer contact will then be in more delicate situations, where skill is most needed). For another, it has been suggested (J Woodward, 1960) that a major mismatch has existed between the job of sales assistants and the training they receive.

Another field of possible importance is buying skills, where at least one college has specialised in training, and there are two professional institutes dealing with the area. Outside that, training in this field seems to involve attending manufacturers' courses to acquire better merchandise knowledge, and instruction in stock control and purchasing systems. Buying skills are important throughout the industry, but are perhaps most crucial of all in mail order, where demand has to be predicted, and largely irrevocable decisions made, some months ahead. Apart from this, the main operations in mail order are management, clerical processing and warehouse despatch, so that training needs arise also in these areas.



2.1.2. One further point can be mentioned, although it is a negative one. It is many years since there has been a tradition of apprenticeship within distribution, in any but a few specialised trades (Lawrence, 1973). This is related, as both cause and result presumably, to the small amount of training generally in the sector, which has already been remarked upon.

2.1.3. Although, then, comparatively few fields of training are distinctive of the distributive industry, some, such as retail service, checkout operation, and store management, may be said to represent activities predominant in this sector. Of course, just as certain areas do appear more important than others, so the importance of others increases or declines over time. An opinion is held in some circles that trends in the industry are likely to make areas such as market research and space allocation particularly crucial. It is on issues such as this that the research facility in the D.I.T.B. may prove especially useful, as the training priorities established when the Board was founded, such as management skills and systems (see 1.3.3 supra) were based mainly on informed but subjective assessments of where training was most needed.

2.1.4. Since some types of training may become more important, others may become less so. Thus, as has been noted (1.2.4 supra), staff turnover in distribution is often high, and this reflects the industry's attitude to employees. By 1975, however, many companies were reporting that staff turnover had dropped sharply. Some trainers in distribution wished to take credit for this (Men's Wear, 1975); reduction in recruitment costs has been claimed as a major vindication of the investment value of training (Thomas et al., 1969). However, many were forced to admit that the decline in staff wastage was so sharp that this explanation could not be accepted, or certainly not on its own. The cause has generally been attributed to the macroeconomic situation in Great Britain, rather than to better systems, management or training. The phenomenon may well, on balance, have been beneficial to training activity, by diverting some effort from induction - previously needed by the large number of new recruits - towards what might be termed more 'constructive' types of training. Again, though, this is a matter for subjective conjecture, because neither the amount nor the effects of the training have been adequately quantified.



2.1.5. Whether the D.I.T.B. has played a major part in influencing the nature (as distinct from the quantity) of training within the industry, is again uncertain. It is clearly reacting to trends as they occur; but it would like to think further that its own priorities have become the priorities of levy payers. One possible effect may have been that training activity has become more systematically organised. Job definitions and staff appraisal schemes, for example, do appear to have increased in number since the late 1960's. Statistics published by the D.I.T.B. (1973, 1974b, 1975a, 1976) suggest a 13% and 66% increase in staff covered by these, respectively. Though it is questionable how far the data for different years are comparable (see 1.4.6., supra), it is more likely that these increases are underestimated rather than exaggerated. If it is true that training is becoming more planned and standardised, then hopefully some of the credit can be attributed to the D.I.T.B., who have encouraged good training action and organisation, as well as quantitatively larger amounts of training. Casual experience suggests that much training in large distributive companies used to take place on a rather ad hoc basis in each branch or area, but that many of these have, in the 1970's, set up central training cadres. This is a generalisation, naturally, but it seems reasonable that training activity should have

developed idiosyncratically according to the personality and outlook of local managers, especially when attitudes towards the value of training could be as diametrically opposed as those mentioned in 1.4.9., and when little or no evaluation of results was made.

- 2.1.6. Though a necessary background for analysing future developments, descriptions of the past state of training are secondary to the central problem, of 'how much training is worth doing?'

This problem is also more important than the more traditional question asked by those assessing training: 'is training worth doing?' The latter begs many points about the heterogeneity of training activity, and about the practical position of training management. Firms do not normally consider whether or not they should invest resources in training; they consider what the size of the investment should be. Even in 1972-73, the I.M.S. study found that 75% of firms within the D.I.T.B.'s scope claimed to do some training (IMS 1973), and there is no evidence that the proportion has decreased. The evaluator has to ask whether firms should be training more than they are, or whether those that train most should be training less. It is not a simple, 'yes/no' question. It is an open problem, with many answers in many different situations.



Again, the complexity of the situation points to a need for some sort of cost/benefit evaluation, and for some general frame of reference for analysing and comparing the costs and benefits of training in different circumstances. In due course, many practical problems will be seen surrounding such a scheme. First, we must determine what training it is necessary to study.

## 2.2. Taxonomies of Distributive Training

2.2.1. To decide what areas of training should be studied must be a priority need; and, to do this, it seems appropriate to attempt an analysis of what 'areas of training' there are. In other words, one is looking for some classification of the training in distribution, so that classes within such a taxonomy can be selected.

In view of the difficulties in quantifying training, this as yet is not a problem with any objective solution. The D.I.T.B. classified necessary areas of learning from the beginning (see 1.3.3. supra), and other attempts have been made since. However, it has not generally been found that much detail can be achieved. In addition, such classifications are intended to describe what training should take place, rather than what actually does; what is actually going

on may have an even broader total range. Deciding what training ought to take place should not be a starting-point for evaluation, but its result, and if a taxonomy cannot be constructed to group a small range of items, it is difficult to see how one can group a larger range.

2.2.2. This is one aspect of the general problems of classifying training, which arise partly from the number of different dimensions along which a taxonomy can be constructed. Miller (1975) argues that a training taxonomy needs to be defined by three sets of variables. The first of these is the learning properties of the students, for which he says no attempt at classification has been widely accepted. The second is the training procedure used; and he feels that, as new procedures are still being invented, an exhaustive typology is impossible (though one may enquire whether a taxonomy comprehensive for all time is ever possible, or is what we seek). Lastly, Miller says of task taxonomies that efforts to discover them "have been collapsing, perhaps in favour of a merely 'practical' scheme."



2.2.3. A few examples can be given of the dimensions which might be used to classify distributive training. It is hard to imagine one that could be of use to an agency like the D.I.T.B. which concerns the first of Miller's variables, the properties of the human learners. His second variable, training procedure, on the other hand, is the basis for the classification made by the I.M.S. survey, of on-the-job, off-the-job, further education and external training, and the further subdivision of on-the-job training. Thus the survey noted that almost as many of the larger companies as are involved in on-the-job training are also involved in off-the-job (Hutt & Anderson, 1975), a statistic which might be of use in determining what training to study.

Other classifications by training procedure include the one on the D.I.T.B. grant claim form (prior to 1977), of management, occupational and relevant education (although there seems also some task characterisation involved here); or one based on a description of the D.I.T.B.'s own activities in encouraging training, such as courses, publications, training systems, and so on. Yet these are all of the most general nature.

Similarly, attempts at defining classes according to the tasks performed, such as the one described by the D.I.T.B. at its inception, seem very generalised, in an industry with such heterogeneous activities as distribution. One might distinguish first between types of business, i.e., retail, wholesale and mail order, and further between different types or range of merchandise sold, as the Census of Distribution does. But this still does not take account of the various business styles and organisational structures which also determine the tasks of a workforce. The same is true of the conventional psychological division of learning areas into knowledge, skill and attitude, with skill subdivided into social, psychomotor and cognitive; such categories were adopted by the Training Services Agency researchers, whose preliminary report (T.S.A., 1975) on an allied subject was published during the course of the present study (see 2.2.4. *infra*). In addition, when such a taxonomy was used as the basis for an hypothesis on the cost/benefits of training (see 2.5.8.), it soon became apparent that it bore little resemblance to the practical differences between types of training carried out.



2.2.4. The fact is that the taxonomy of training is a highly complex field which, at the present state of knowledge, provides very few points of general applicability across a whole industry. In addition, despite the number of different categories that could be produced by combining even the few dimensions described in 2.2.3., the student is really no nearer to answering the problem 'what training goes on?' - which is the essential question. One can only agree with Miller that, while comprehensive models of training itself still remain things of the future, training taxonomies are even more so. Hence, to establish one for the distributive industry would be a major piece of research alone, and could not be simply a preliminary to a study of some other aspect of training, such as the present work.

The preliminary results published by the T.S.A. in 1975 suggested nine dimensions for use in "describing every job in the economy" (p 21) - four in terms of knowledge, four of skill, and one of the worker's interest. They omit, however, to list the classes along each dimension, so that their ambitious claim cannot be tested. In any case, a job taxonomy is not the same as a training taxonomy; indeed, it provides only one of Miller's three variables. The T.S.A.'s

scheme does not seem specific enough to analyse distributive training at present.

2.2.5. The question of classification by job function has been considered by various staff in the D.I.T.B. for specific projects. Yet it has generally been found that the classification of functions most useful to them was derived from the experience of expert D.I.T.B. staff, rather than from any systematic analysis. And that, no doubt, is what Miller meant by the "merely 'practical' scheme" to which research such as this invariably turns.

### 2.3. Types of Organisation for Study

2.3.1. It has been seen that there was neither any taxonomy, nor any quantitative measure, of training activity, which was satisfactory enough to be used as a basis for deciding which areas of training should be evaluated. This, however, altered neither the fact that a number of areas of training seemed to require cost/benefit assessment, nor the widespread opinion about this in the D.I.T.B., which seems to have been shared by many workers in the industry, both in the U.K. and abroad. The 1973 conference of the International Association for Training and Education in Distribution mentioned this point (E Williams, 1973).



However, some researchers have questioned the amount of management interest in actually carrying out such assignments (Breislin, 1972), and related it to the difficulties suggested by Davies (1971) for a shortage of evaluation activity in training departments generally.

2.3.2. Hence it seemed important that the views of firms in this field should be sought, because close collaboration was expected to be needed with the industry if the research was to be successful. Investigations were likely to take place where the organisation concerned thought they were most appropriate. Consequently, it was decided to select areas for study on the basis of two principles. The first of these was to cover a range of types of organisation, using a 'practical scheme' as Miller suggests. The industry, as defined by the D.I.T.B., was, therefore, divided on the basis of tradition and common observation into retail, wholesale and mail order, retailing being itself divided into multiple and independent (with the major proviso about this mentioned in 1.1.2. supra - so that cooperatives were considered adequately covered by these two groups). From data available (IMS, 1973), it seemed that staff in the industry were employed in roughly the following proportions between the groups:

independent retail 40%, multiple retail 24%, wholesale 24%, mail order 8% (i.e. 5:3:3:1). While it was hoped that studies would be spread on roughly this basis between these types of business, it was appreciated that circumstances might mean that one group received more emphasis than another - as in fact happened.

This arose because the second principle was that the areas studied should reflect the interests of the industry, both because that is more likely to produce results that are relevant to the needs of those involved, and because it was imperative that cooperation was achieved with firms collaborating in the research.

- 2.3.3. It was decided also, during these preliminary approaches, that the research should take place mainly in the larger firms, those referred to as the D.I.T.B.'s "Programme I" (D.I.T.B., 1974a). These were, on the whole, those employing more than 100 staff, and were generally distinguished by a number of factors which appeared to favour cooperation in research. Such factors included the greater amount of training carried on by them (see 1.4.2. supra), and also that they were more likely to have a professional training organisation. Then, as a result of this, it



was probable that more of their staff time would be available for collaboration; and, as a fourth point, their general training and research facilities were likely to be better.

The survey in 1.4.3. had suggested that most employers of any substantial size carry out management training, while others (such as Crossley, 1969; Breislin, 1972 and Hill, 1966) had noticed in the past a certain reluctance among managers to see to their own training where the matter was left to their own responsibility. So a fifth reason was the belief that, having a training organisation, larger firms were more likely to train management; Programme I firms claiming grant in 1974-5 carried out management and supervisory training for, on average, 20 hours per relevant employee, against 8 hours for other firms (D.I.T.B. 1975a). Sixthly, with the provision of the facilities mentioned, the researcher was able to form a judgment in each case, and to consult with other D.I.T.B. staff, as to the standard of the training that the company carried out. It would be circular to suggest that only worthwhile training should have been evaluated in this research. Yet, if the appropriateness of evaluation methods was to be tested, rather than the value of training programmes in unique circumstances, then there was an evident need to avoid training that was of a clearly doubtful nature.

2.3.4. The decision to concentrate the research in the larger companies had two main consequences. The first was that independent retailers were not properly represented. In fact, the nearest that any of the major collaborators came to being an independent was in the case of a scaffolding manufacturer and wholesaler, who took part in the planning of training priorities (see chapter 12). A department store, the premier unit in a group of some eighteen such stores, whose management and training are to a substantial degree independent of each other, also took part in the research (see Chapter 7). It was one branch of a 'multiple' in the strict sense that its group had more than ten units, but not in the looser sense of the 'chain stores' which constitute typical multiples.

#### 2.4 Types of Training for Study

2.4.1. The other consequence was that the research became directed towards more formal training. We have noted (1.4.2. supra) that the larger a firm is, the more probable it is both that on-the-job training will be formal, in the sense that it is planned, and carried out by a qualified instructor; and that off-the-job training will take place. An emphasis on formal training was felt to be advantageous, because the D.I.T.B. has tended to stress the need for specific



periods of time (30 minutes has normally been the minimum (DITB, 1975b)) to be devoted to training, which implies that the activity will be formally planned, and often off the job. What the D.I.T.B. was concentrating upon, it seemed wisest to assess. In addition, as the survey of the literature on evaluation (Chapter 3) will show, both costs and benefits are more likely to be measured if the training is formal. The costs will be less confused with the costs of trading, if business and instruction are being carried on together. The benefits will be easier to quantify if the objectives of the training are clear; this was expected to occur more often when formal training, especially off-the-job, took place.

This is not to say that problems in measurement were unexpected. They were anticipated, and they were found. But it was believed that the research would be most productive if it concentrated on larger firms and more formal training.

2.4.2. The importance of researching in a range of fields was borne in mind when employers in the industry were contacted. A number of firms were approached, with a view to discussing the feasibility of collaboration. These were divided among the sectors of the industry, in the following numbers:-

Retail	24
Wholesale	7
Mail Order	6
	<hr/>
	37
	<hr/> <hr/>

In addition, nine colleges and universities, and six other organisations, were approached; this was mainly to establish what parallel research had already taken place, and to find out what other firms might be prepared to collaborate.

The responses from the firms can be divided into four types:

1. 18 firms said they could not be of assistance, or failed to reply.
2. 9 firms arranged meetings about the research, which in some cases were very useful; but declined to collaborate in any actual study.
3. 4 firms started to collaborate, but the research did not reach fruition.
4. 6 firms became active collaborators in the research.

Of course, as proportions these figures have no significance, since approaches to companies ceased when a satisfactory range of studies had been established.



But the fact that such a number of firms needed to be approached does reflect the interest that many of them showed in the research.

When the firms were asked what evaluation they carried out, and what potential they felt existed, it became clear that the range of training in need of evaluation was great, as was the variety in enthusiasm amongst trainers. In general, they agreed that the task was difficult; many wrote off the possibility of cost/benefit assessment on this account, although some felt it provided an interesting challenge. Whatever their views, almost every firm claimed never to have attempted any cost/benefit evaluation; most of these were correct, though a few did mention, on subsequent questioning, some rudimentary exercises in this area (some of which are described in Chapter 6).

- 2.4.3. It was still difficult to identify in advance what types of training it was most appropriate to study. Since the need to reflect the interests of the industry was considered important, it became particularly crucial when the precise nature of the studies was determined.

Certain appropriate areas of training have been mentioned. The reluctance among management to train themselves (see 2.3.3.) indicated that some justification of management training should be made. This was suggested also by the D.I.T.B.'s emphasis on this field; the same is true of supervisory skills and of training systems. On the other hand, the questionable importance of customer contact skills (2.1.1.) led to the conclusion that an assessment was needed of the present value of training in this area.

In addition, a few other areas were suggested by a survey of the literature, and by discussions with D.I.T.B. staff. Breislin (1972), for example, mentions inflexibility of staff as a common problem, giving as a specific example the bacon department of a supermarket. As far as D.I.T.B. staff were concerned, a proposal was written after the research was started, that shorter instructor courses should be run; this inevitably provoked questions about the value of such courses of different lengths, and reinforced the queries suggested by Crossley's ambivalent research in this field (see 1.3.4., supra). Another area concerned the induction of young people from school to work; and a further one involved the response to the D.I.T.B.'s own training aids. Again, discussions following con-



sideration of an article (Cheek, 1973) on priorities in personnel management suggested that a need existed for some system to order priorities in distributive training.

Many of these areas were studied, although some were set aside through the constraints of time, and others were disregarded or modified during the course of the preliminary research into the feasibility of collaboration.

- 2.4.4. One of the studies which, regrettably, had to be disregarded was instructor training. A course on instructional techniques, run jointly by the D.I.T.B. and a training group, was observed, with a view to establishing what cost/benefit techniques might be used on such training. It was at once apparent that, before this was possible, the objectives of the course needed modification.

Thus, the objective set out was:

"To teach the techniques of preparing and presenting information in a simple, logical sequence to

achieve good instruction. Implementation of these techniques within the course members' own firms should ensure that jobs are done correctly, safely, quickly and conscientiously".

This compared with the draft D.I.T.B. course manual on instructional techniques, which gave its objectives as:

"to help delegates to instruct effectively".

However, it appeared that the behavioural objectives of the course were:

"to enable delegates to analyse a task; and plan and carry out the instruction of a trainee in an area of skill or knowledge with which he is familiar, making use of training aids as appropriate, with a resulting improvement in the performance of his organisation".

In other words, the problem of cost/benefits related to the measurement of organisational performance, whether clearly formulated or not, rather than to conscious objectives. The analysis of any training carried on for a number of different firms would be fraught with difficulties, because 'performance' would be measured in so many different ways. This reinforced the desirability to approach individual organisations for



discussions about their own evaluation needs. When firms were approached, none was found who were prepared to collaborate in research in the field of instructional techniques, seemingly because they did not feel that training and using instructors needed justification. It has been noted (1.3.4.) that limited evidence exists from one study, although the research was carried out under conditions which were less than satisfactory at producing conclusive results - a difficulty which the present research was also to face.

## 2.5. Initial Approaches to a Research Design

- 2.5.1. In parallel with consideration of what areas of training should be studied, the problem was raised of what should be the theoretical direction of the research. This was also a question which needed to be approached as a matter of collaboration with the industry, and a number of strands of thought developed during the feasibility study.
  
- 2.5.2. Four or five major lines were pursued for the development of an hypothesis. For instance, once it was apparent that some organisations carry out a great deal of training and others virtually none, the question was raised of what organisations expect from their training - in other words, how objectives are established, and how well they are achieved. In fact,

it was soon found that a lack of objectives, and specifically of behavioural objectives, was likely to frustrate the testing of this hypothesis. Research with a wholesale news distributor indicated problems in this area. The objectives of their wholesale news marketing course were as follows:

"To discuss effective ways of marketing news, increasing sales and improving profitability", and specifically:

- "(1) To enable course members to fully appreciate the diverse outlets that could exist for news and how to deal with them.
- (2) To create an awareness of all aspects of buying for the wholesale house, in order to improve buying standards.
- (3) To stimulate awareness of the need to keep abreast of new publications and developments in the news world.
- (4) To create a keen awareness of the selling techniques a house should employ to achieve increased sales and loyal customers.



- (5) To give a basic understanding of gross profit margins as they affect the news department.
- (6) To create an awareness of the importance of developing news sales and the ways in which this can be done.
- (7) And, in project work, to stimulate those aspects of a merchandising operation which are likely to be met in the operation of a news department, so that the situation is dealt with efficiently".

Various questionnaires were used to measure improvements in learning; this exercise was largely successful. Then an attempt was made to relate this learning to managerial assessments of the participants, and of a control group of employees at a similar position in their careers. But it was at once apparent that the subjects on which managerial assessments were based could not be related directly to the open-ended objectives. The investigation was thus approached with some reservations, and was finally abandoned as a cost/benefit exercise when it became clear that appraisal forms from managers were not a fully available as was wished. Only 55% of the appraisal forms

asked for were held in the staff department. This seemed due to a combination of managers' failure to complete appraisals and of the records' not being fully preserved.

The investigation did, however, have some value in that it suggested that a study of the literature on objectives was necessary, and the results of this are incorporated in this thesis (see 3.3.,*infra*). Additionally, it indicated the likely problems that would occur in evaluating the individuals trained on a course, where it was difficult to identify in advance who precisely those individuals would be. This provided some preparation for the other study carried out with the same firm (see Chapter 9), as well as other research, where it became clear that proposed course membership often changed in the last few days before training.

- 2.5.3. The problem of the inability to keep proper records was met also in the research into the cost/benefits of training in letter-writing in a large Oxford Street department store, the same shop where the study of customer relations training took place (see Chapter 8).



Here the benefits from training were expected to be realised in the form of reduced clerical time spent correcting or checking the draft letters sent by the selling departments for typing. To assess how great this saving of time was, the typing supervisor was asked to ensure that a record was kept of the correspondence which took up unnecessary amounts of time, together with the departments and staff involved, and various other details. In fact, no such log was kept, apparently because time did not allow. This frustrated the whole exercise, as no evidence existed of what result the training had.

As a result of this, and of the wholesale news marketing study, it was concluded that one of the conditions for the effective evaluation of training is the ability for proper records to be kept. This conclusion may appear mundane or trivial, but it does stipulate an important proviso which, it seems, is by no means always met in the distributive industry. Nor is it always met elsewhere, according to a number of sources (Seymour, 1954; Thomas et al, 1969; Garbutt, 1969).

2.5.4. A problem of a different kind was encountered when collaboration was attempted with a supermarket chain. The training involved induction of staff and checkout control, the hypothesis being that when these areas were standardised there would be improvements in absenteeism, staff turnover, disciplinary incidents, dismissals, pilfering, sales, profits and other areas. It was felt that this case study might deal with the field of company knowledge, which was one of the classifications into which the D.I.T.B. had grouped training (see 1.3.3.). Agreement was reached on the general methodology of the studies, and a questionnaire designed as a basis for a customer interview. If successful, the latter would have been a new development in the methodology of training evaluation. Assistance was then sought from the company's training staff, to obtain information about the various criteria which were to be measured. However, despite a number of letters and telephone calls, this help was never received; evidently the training staff were too busy, and so they failed to communicate as promised. After a number of unsuccessful attempts at contact, the project was abandoned.



2.5.5. Another study not completed took place in a different supermarket multiple, where a new system had been introduced to standardise training. This involved the production of cassettes to be shown on visual display units in the firm's stores. A research proposal was written, which suggested that the study should establish the cost of the visual aid system, its effective usage, the cost and time required to teach by other means, the criteria by which results of the method would be assessed, and any changes in performance along these criteria. However, the company's response at this stage suggested that the programme could meet with resistance. Since costs had been sunk, and policies committed, to the system, it was felt that, at board level, research into a statement of value would not be approved, involving as it did 'interruptions' in the running of the shops.

Consequently, the researcher was asked to change the direction of the study from 'what is the system worth?' to 'how can better use be made of the system?' Although an attempt was made to do this, in the event it was still not possible to obtain approval for any investigations in the stores; so the study was not carried out. The experience did, however, reinforce the view that the proper stress for the research was on estimating

the optimum amount of training, rather than on any more specific model of stating whether one training system or course was worthwhile.

2.5.6. Three further arrangements for research were also abandoned, two in mail order and one in wholesaling. One mail order company was also in the position of establishing a training function where previously there had been none, and expressed interest both in the costing system designed for training, and in the measurement of changes in purchasing skills. This was an area of instruction which the training manager wished to systematise, and it was intended to see whether stock shortages could be related to training. However, while arrangements for this were being set up, the company's financial situation deteriorated, and the training manager was not permitted to devote his efforts to any new developments in training. As a result, neither of the proposed studies could take place.

Another mail order company - the one with whom the priorities system was later set up (see Chapter 12) - expressed an interest in the costing system, and the



possibility of linking it to an assessment of a particular area of training. It transpired that introducing it would have had too many undesirable ramifications in the company's systems generally, especially because the accounts were being computerised at the time. So, in this case, it was not possible to carry out the study, one of the main reasons being that the researcher was no more than an outside consultant to the firm - a problem similar to that met with the visual aid evaluation in the supermarket company.

- 2.5.7. The final piece of research which did not reach fruition took place in the British subsidiary of a multinational company manufacturing and marketing cutting tools. Their connection with the D.I.T.B. derived mainly from their orientation towards marketing, and they viewed training as a major tool in developing this interest (McKinnon, 1976). The particular training observed involved a middle management course run by a firm of consultants. It was hoped that the assignments, around which the course centred, could be evaluated, and investigations towards this took place. However, the majority of these assignments were highly confidential, and these the researcher was not permitted to analyse. Because it was clear that the small

amount of work remaining would not provide enough information, the study was abandoned. Again, the fact that the researcher was not fully integrated into the firm frustrated an in-depth investigation.

- 2.5.8. These unsuccessful approaches to the research, as well as enabling various tentative conclusions to be drawn, suggested various other directions in which an hypothesis might be sought; and the following can be mentioned.

First, in view of the standardisation of training that seemed to be taking place (see 2.1.5. supra), it was considered worth attempting a comparison of results from the systematic training with those from the more ad hoc systems previously used, especially by comparing the branches where performance was considered to need improvement with those that were already highly regarded. The intention of this would have been to test whether the systematic training was more effective; but after the studies of supermarkets and mail order firms were cancelled, no further opportunity for this was found.

Another hypothesis tried to distinguish between knowledge and motor skills on the one hand, as areas of learning which could be taught from a neutral starting-point; and social skills and attitudes on the other,



as areas in which training participants would be likely to have some preconceptions at the start, which might be of negative value, so that 'unlearning' would have to take place as the preliminary of training. If this was so, it was felt that the first two areas might be subject to diminishing returns from training, whereas the last two might, at the start, undergo increasing returns. A development of this involved considering whether training should take place on an individual or a group basis, and hypothesised a relationship between individual training and knowledge/motor skills, and between group training and attitude/social skills.

- 2.5.9. In the event, all these hypotheses were considered and then disregarded in favour of a different one. The two main difficulties were that either they were too narrow for a study of the value of distributive training as a whole, or that they presupposed a model of the training in distribution that was not realistic.

Thus, even though objectives are conventionally considered an important part of training, it became clear that some of the most active firms in the industry were

not formulating specific objectives for their training activity; still less were they formulating behavioural ones. There is, in fact, some debate in educational and training theory on this subject (see 3.3.2. *infra*). This tended to discount an approach to evaluation which was tied in merely with the expectations of employers; in any case, it would not give a broad enough perspective on how the value of training could be estimated.

Similarly, the issue of how systematic training should be is only of importance in a limited number of firms. Some of these firms were those with whom collaboration was particularly difficult, as the description of attempted work has shown. In addition, to establish groups of 'better units' and 'worse units' would have involved adding a dimension of uncertainty and subjective judgment to a field that was clearly likely to be infested with subjectivity. Again, where only one employee in a unit was trained at a time, such a model would not take account of the influence of other staff, untrained or trained in other ways, on that unit's performance. Although this hypothesis was set aside, however, it did point towards the need for a comparative model of evaluation; for comparison is the essence of evaluation.



Such comparison was part of the hypothesis which distinguished subject areas, and which related them to different types of training. It soon became apparent that, though such clearcut distinctions may exist in training theory, they bear little relation to the training which is actually carried out. Training in distribution tends to incorporate (whether the objectives are specified or not) a variety of subjects, and tries to develop them in parallel. Consequently it would not be probable that any analysis could give simple results in terms of increasing or diminishing returns.

2.5.10. On the other hand, these prototype hypotheses did lead to the development of a more general model, to be described in Chapter 4 and tested later. This involved a comparison - specifically a comparison of the results from different amounts of training with costs of that training. The central concept here was the optimisation of returns, similar to the optimisation of profit from, say, production, which is well-known in management accounting (see, for instance, Batty, 1975).

The virtue of this was that, at least hypothetically, it could be applied to all training, and could be used by management as an approach to answering the question,

'how much training is worth doing?' It was not dependent on any established classification of training activity, although it would clearly need to be considered in the context of other theories of evaluation. Consideration would also have to be taken of the limiting factors found in the abandoned research. Thus, it was clear that the researcher's position outside the firms whose training he was evaluating was in some ways disadvantageous; this emphasised the need to collaborate with the most actively responsive companies. Additional reasons for this poor response included an unwillingness to ensure that records were adequately kept, a shortage of training management time, a resistance to 'interruption' of normal work, the financial and other priorities of the companies and the confidentiality of information needed for research. Meetings and correspondence with many of the companies who declined to collaborate suggested that their reservations involved much the same factors.

2.5.11. As far as the methodology of evaluation was concerned, the abandoned studies indicated that any techniques developed would have to come to terms with, or else have their results limited by, a number of difficulties, including the lack of behavioural objectives, the unpredictable attendance of training participants, and



the inaccurate recording of information.

The conclusion, then of the search for an approach to evaluate the costs of distributive training was that three main steps were needed. First, established models and theories of evaluation had to be investigated, so that this model could be developed in more detail, and likely problems anticipated (see Chapter 3). Second, a method had to be designed to measure the costs of different amounts of training (see Chapter 5). Third, the benefits of the training had to be measured in as much detail as possible, so that, by comparing them with costs, an estimate could be made of the optimal amount of training to be carried out (see Chapter 6 ff.).

## THE EVALUATION OF TRAINING

"Count what is countable; measure what is measurable; and what is not measurable, make measurable."

(Galileo)

*In this chapter, the nature of 'value' is discussed, as it applies to training, and a working definition of 'evaluation' is developed, concerned with comparison for the purpose of improvement. Two previous models of training evaluation are described, one of different 'levels', the other as a cybernetic loop; these are seen to be compatible. The role of objectives is then considered; though these are desirable, it is noted that they may not always be available. In attempting to integrate the assessment of costs and benefits into these models, a number of practical and theoretical problems are found. They form two main types, one concerned with identifying results, and the other with ensuring that these results are not contaminated by other factors. These problems are considered, and it is concluded that any model of cost/benefit evaluation must anticipate them, so that it can be used under a variety of different conditions, and so that a study is not prevented by unavoidable imperfections in the research design.*

### 3.1 The Nature of Evaluation

- 3.1.1. Some writers on evaluation have approached the issue by asking whom the training is supposed to benefit. Thus Hesseling(1966) points out that five different agents (the trainee, trainer, supervisor, policy-maker and scientist) can evaluate training, while Whitelaw (1972) prescribes 'four angles' of assessment - apparently combining the supervisor and policy-maker into one.



Hall (1975), with a slightly different approach, describes four points of view, those of the worker, the firm, the industry and the economy. Clearly, 'value' can assume different forms according to the evaluator's point of view.

Specific case studies that have been published confirm this. For example, Ziderman (1969) analyses training as a social investment. He is concerned with the value to the community and to individual trainees, since the training studied is a national investment in adult retraining, in Government Training Centres. It is possible to imagine a parallel study in distribution, which might consider the benefits to participants of studying at college for the different levels of certificate, in terms of career prospects. Perhaps this could be generalised to suggest the benefits for the community by relating some index of productivity to these levels of certification. Any prospect of including such a project in the present research was, however, quashed by the wide range of problems that would have to be approached to reach conclusions on what is one rather narrow aspect of distributive training. American studies (Weisbrod, 1966, Sewell, 1967, Borus & Buntz, 1972) of adult training programmes indicate how massive the economic problems are which such a study would have to face.

Employer-financed training can also have a value to the trainee, especially if the training is of a general nature - that is, if it "is useful in many firms in addition to the firm providing it" (Becker, 1962, p 12). Thus Burgoyne (1973) points out that the very experience of a course can be itself of value to a participant, besides developing his self-respect through increasing his competence, and besides possibly providing him with a 'ticket' for a better career. Yet benefits of this nature are likely to be long-term, and demand a study over many years before they can be valued financially. Burgoyne makes no attempt at a financial assessment of either the long or short courses run by Manchester Business School, whose evaluation is the subject of his thesis.

3.1.2. It is, therefore, more appropriate to think of cost/benefit evaluation in terms of value to the employer in research such as this. The reasons are not only negative ones; for it is the employer who most often, within the distributive industry, makes the training investment. A participant attends a course most usually on the decision of the employer, or at least with his agreement; and, in particular, the employer normally finances it. It is employers with whom the D.I.T.B. have the strongest connection; they are the ones who have paid levy and received grants for training.



It is true that economic theory has concluded that more training is paid for by participants than is apparent, because they may have to accept reduced pay in return for acquiring skills which might be transferred elsewhere (see especially, Becker, 1962, and 1964; and Mincer, 1962). But the weight of the argument still favours concentrating on employer-sponsored training, because the decisions on what training should take place appear to be taken largely by employers, especially as far as training with short-term results is concerned. The applicability of Becker's theory to the highly imperfect labour market in Britain has been questioned (e.g. by Thomas, Moxham & Jones 1969; and Oatey, 1970); and if it does appear that any given training has a large general element and provides a consequent saving in pay for the employer, this can in any case be taken into account as a benefit to the employer when a financial assessment is made.

- 3.1.3. Having established the desirability of concentrating on employers as the beneficiaries of training, the next task is to decide the nature of the value to be sought. Walsh (1926) suggests that 'value' is of four kinds, distinguishable by a number of features. Of these, it seems clear that exchange value is not in question here since training is not normally a commodity which

can be exchanged for as others; as Garbutt (1969) comments: "Investment in people cannot be disposed of" (p.142). So too, the concept of esteem value is no more than a very minor issue in training. There may be an element of esteem value in treating training as a 'perk' or reward, which is well-known (Hamblin, 1964), but widely frowned upon, as a management practice. Again, employers may gain some esteem as 'good trainers', though it would be difficult to show that this is anything more than an attractive side-effect of their main training policy (Jones, 1972).

It is with Walsh's other two types of value that the evaluation of training is largely concerned. First, there is value related to cost, that is, to the resources put into producing the trained staff. This relates, either directly or indirectly, to human effort, and thus to the cost of the human time spent on providing training. In other words, it is the value of the training input. Secondly, utility value is the worth of the output. Training is of no 'value' in this sense, unless it can be put to some use. It will be shown (in 3.2), that this accords with the most widely accepted model of evaluation, in which a causal chain is anticipated between the results of learning, performance changes at work, and financial improvements for the firm.



3.1.4. Value is, therefore, a matter of cost and use, of input and output; and evaluation is the comparison between these two. In addition, comparisons can, in principle, be made between different types or amounts of training, or between some training and none at all, since both cost and utility may vary between different types and amounts. Ellis describes the "cost of learning" (Talbot & Ellis, 1970), as a necessary input of skill (or sacrifice of output) when jobs are being learnt; this occurs whether or not training takes place. Hence to bring about the same learning effects, different training programmes may be used, which are represented by different inputs (including costs). Similarly, the range of inputs may bring about results (outputs) of different utility. Consequently, cost/benefit assessment may be seen, not only as a single comparison between input and outputs, as in figure 3.1, but also (see figure 3.2)

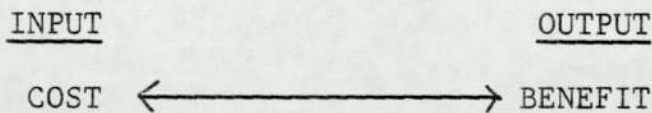


FIGURE 3:1

as a comparison between different inputs, between different outputs, and between input/output pairs, which are the total costs and benefits of different programmes.

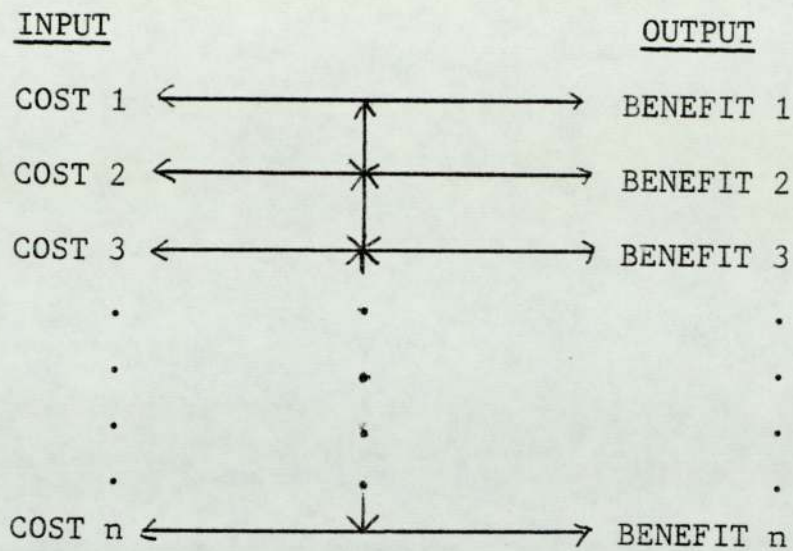


FIGURE 3.2

3.1.5. That, at least, is a theoretical statement of how 'value' may be assessed financially. In practice, however, the difficulties of carrying out such a study can be readily seen. It is not common for a number of different types or amounts of training to be carried out in parallel in similar circumstances, nor for training to take place in an environment where other staff are receiving none. Firms tend to take decisions on training, and to apply them to all appropriate staff, albeit over a considerable period of time. This is often quite rational. There may be legal impositions, or the requirements of systems changes, or the prospect of disasters resulting from mistakes, which make a comprehensive training strategy essential. Or it might be a matter of simple equity that all staff should be treated the same. But, as a consequence, it may be inevitable that evaluation studies will



compromise on the number of comparisons that are made.

3.1.6. Such a compromise may be regrettable from a 'scientific' point of view; but such a view involves an emphasis different from that of management taking practical decisions. A recent article by Burgoyne and Singh (1977), developing earlier work by Burgoyne (1973a) on this subject, has compared the two standpoints of the researcher and the decision-maker with two different views of evaluation research: "evaluation as an end in itself" and "evaluation as feedback", respectively. The latter, they suggest, is prepared to limit the methodological rigour of evaluation techniques, so that the results obtained, even if only approximate, are nonetheless usable as the basis of future decisions; they are better than no results at all.

This distinction between the two views of evaluation has been stated before, deriving at least from Schwind (1975a) and from Rackham (1973), who one presumes based it on the statement by his colleague Warr (1969), "that the primary purpose of evaluation is to improve training." Rackham defines evaluation as:

"the systematic collection and utilisation of data in order to improve training",  
as distinct from the "training archaeology" which

collects results for their own sake. He does not take Burgoyne and Singh's more charitable view that the standpoint of the pure researcher is of some significance; but that is not the issue here. The present research is concerned with the practicalities of decision-making, where feedback of even approximate results may contribute to improvement.

3.1.7. The concept of improvement has been stressed by various other writers over the years, both in the U.S.A. (Fryer, 1951; Mahler, 1953; Besco, Tiffin & King, 1959), where Fryer begins, "This paper has to do with the improvement of training"; and in Britain, where Jones and Anderson (1974) make the neat distinction between "to improve decisions" and "to prove them". It would not be true to say that it has unreserved approval, although it seems to have general acceptance as one of the major aims of evaluation. Ayres (1974) reporting the conclusions of a B.A.C.I.E. 'think-tank' on the subject, lists "improve the effectiveness of training" as one of seven reasons for evaluation (see 14.2.3 infra). Woodward (1975b) argues that improvement is one of "two broad objectives", the other being the assessment of economic efficiency. One may compare the position of Ashton and Gibbon (1974), who combine Rackham's definition with an early one of Hamblin (1970), to give: "Evaluation is the systematic



collection and utilisation of data in order to assess the value of, and to improve, training."

This seems to recall the two standpoints distinguished by Burgoyne and Singh. A disciple of Rackham might enquire what point there is in 'assessing value', if it is not intended that an improvement will follow. At this stage there is danger of the argument becoming a semantic question about the meaning of 'improvement'. Rackham is concerned primarily with the evaluation of specific training courses or sessions, and is right to stress the pointlessness of assessing these for its own sake. Yet there is more to evaluation than this. Some evaluation will take place before any training (investment analysis, for instance, where estimates of costs and benefits may be involved), and may result in decisions to use one training method rather than another, or not to train at all. Points such as the diminishing returns of further training, and breakeven analysis, may need to be considered. This is 'improving' training, but only in a wide sense of the word.

If the term is intended to include concerns of management such as finding a more efficient quantity of training, or deriving a better return from a training investment (as well as providing training

of higher quality), then the aim of improvement appears to provide a reasonable working definition of evaluation. Burgoyne and Singh agree that "evaluation as an end in itself" may provide a body of knowledge about training which can be generalised from one situation to another; if so, then the point of applying this knowledge to another situation is presumably to 'improve' training in some sense, as long as the word is defined widely enough. For in many cases, the aim of evaluation may be to improve organisational performance, rather than simply the training itself. On the assumption that training in distribution is carried out by or for firms motivated on a profit basis, cost efficiency must be a paramount criterion of performance (whether it should be the only criterion is considered in 14.3, infra). The concept of 'improvement' does, therefore, provide a working definition of evaluation, as long as the qualifications mentioned are borne in mind.

### 3.2. The Levels of Evaluation

- 3.2.1. A distinction has been made between the financial results which training may induce, and changes in learning after a course or session. This needs further analysis, as it is a fundamental part of one of the accepted conceptual frameworks of training evaluation. This framework differentiates between



'levels' of results, such as learning, job behaviour and financial effectiveness, as criteria for assessment. These three levels were distinguished by a number of writers (see Goodacre, 1957; Besco et al., 1959; Korb, 1956; Van Ginneken, 1963) in the early days of evaluation studies; and often referred to as immediate, intermediate and ultimate evaluation respectively. Ayres (1974) shows how the Glossary of Training Terms (Dept of Employment, 1971) distinction between internal validation, external validation and evaluation can be accommodated into the three-level concept. Martin (1957) had already distinguished between internal and external validity, in terms of the immediate objectives and the job results which were achieved. Meanwhile, a fourth level had been described, apparently independently, by researchers in the U.S.A. and in Britain.

Warr, Bird and Rackham (1970) view the three traditional levels as subdivisions of "outcome evaluation", and stipulate a level following training more immediately, the evaluation of reactions. Kirkpatrick (1967) also accepts "reactions" as being one level on its own. More recently, Hamblin (1974) has added a fifth level, by dividing the financial level (known as "results" by Kirkpatrick, and as "ultimate evaluation" by Warr et al.) into two parts, the levels of organisational effects and of ultimate value.

At least two other studies have suggested an even greater number of levels (Thomas, Moxham & Jones, 1969; Jones, 1970); but it is unnecessary to argue about numbers. The important conclusion is that the results of training can be evaluated in many different forms. Furthermore, since there is, at least implicitly, the assumption in this model that the levels may bear a causal relationship to each other, it may be important to evaluate training between levels, as van Ginneken (1963) has suggested. Thus, if changes in learning fail to cause changes in job performance, the reasons for this may be crucial to improving the training system; it has been noted (in 2.1.1) that such problems have caused concern in distribution. Similarly, if a change in job performance brings about no financial return, the causes will need to be examined.

- 3.2.2. Another model of evaluation exists, which is generalisable outside the field of training, and which describes the process in a form of cybernetic loop, with input, output and feedback. The results of training are used to assess their own value by comparison with set objectives (compare many of the views reported in 3.1.6. supra). A particularly complex model of training/evaluation along these lines was given by one of the earliest pieces of European



literature on the subject, the projects coordinated by the O.E.C.D. (Meigniez, 1963). Training and evaluation are seen as parallel processes, consists of the area of operation, a diagnosis and setting of objectives, a decision on methods and implementation, immediate consideration of results, the final analysis of results and formulation of conclusions, both of which become feedback for modifying the area of operation and objectives. Each of these elements is analysed further, and the whole model makes most subsequent descriptions of the feedback loop (such as Hesseling, 1966; Nixon, 1973; and Hamblin, 1974) seem rather simple.

Nevertheless, the concept of the feedback loop is an important one, especially where improvement is taken to be the aim of evaluation. Hamblin (1974 and 1968) has shown that the cybernetic model can be applied to the framework of evaluative levels (see figure 3.3); so that it might be possible to set goals at various levels, and record results at each level for comparison.

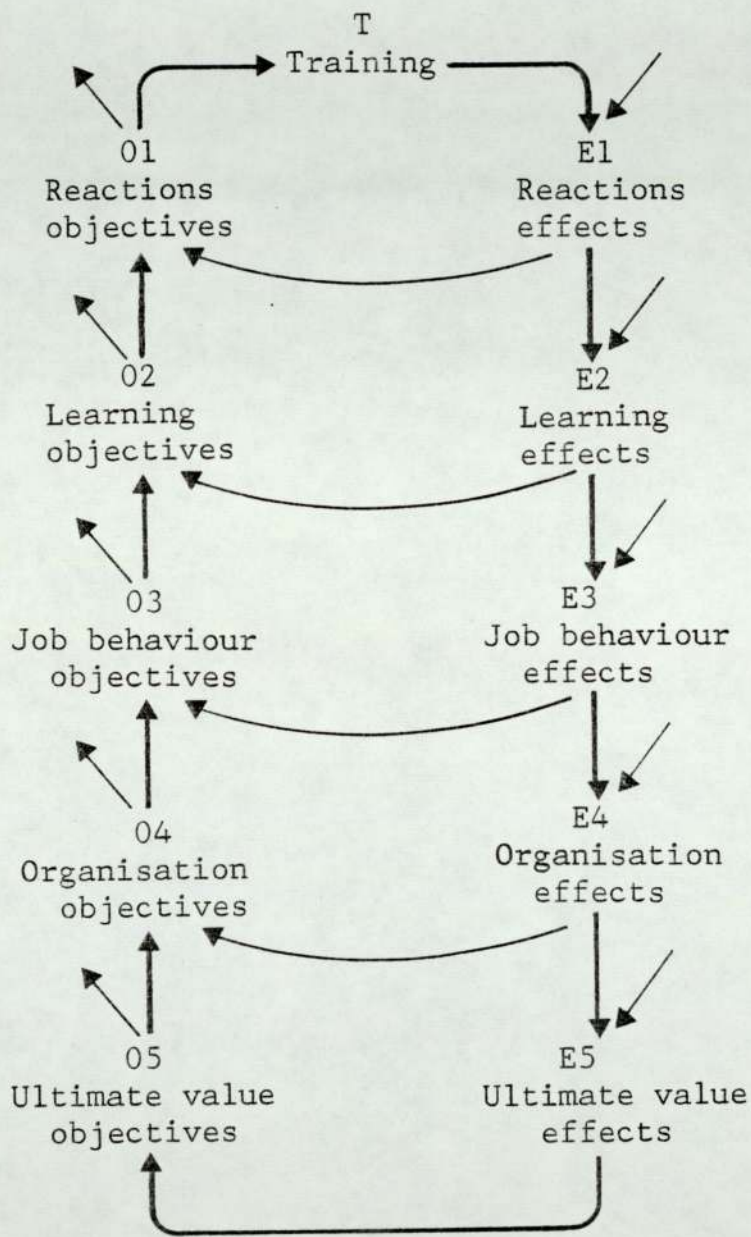


FIGURE 3:3

THE CYCLE OF EVALUATION

(FROM HAMBLIN, 1974)



3.2.3. Whatever the number of levels distinguished, there is agreement that any training should be aimed at achieving objectives, and producing results, in at least three ways, which thus lead to three types of assessment: first, changes in the skills, knowledge or attitudes of the trainees (assessment of which is sometimes called 'internal validation'): secondly, changes in job performance (known as 'external validation'); and thirdly, financial changes in a firm's performance (known as 'evaluation'). As the term 'evaluation' is used (by Hamblin, for instance) also to refer to all levels, it is perhaps best to describe assessment of financial changes as cost/benefit analysis. There is a general presumption that these three types of changes are related to each other as cause and effect, and that consequently the relationship between the levels of results must be considered, in case success at one does not lead to success at another. And it is also agreed that some sort of input to training is needed, against which results can be measured. This input takes the form, both of objectives to be achieved, and of the cost of carrying out training.

3.2.4. Such a model of evaluation as the one described causes problems to the practical evaluator, because it appears

to lay down ideal conditions for an evaluation exercise which often cannot be realised. Thus it would seem evident that the identity of the participants in training should be known in advance, if objectives are to be established with which the results of training can be compared. It has been seen (in 2.5.2.) that in distribution this is often not possible. Again, a simple causal model may assume that the financial and job performance changes will arise from the work of the same people whose skills are changed, i.e., the training participants. In some training, however, this is not the case; in much management and supervisory training, the participants are being developed in order that their subordinates' performance will improve. This does not invalidate the model, but it makes it much more complex.

Problems may relate to the accuracy with which the model represents the real starting-point for training, or they may arise where it represents the hypothetical basis on which training is actually carried out, but where observation suggests that what actually takes place is different. Examples are known of training which is not related to the job in question, both in distribution (J Woodward, 1960, see 2.1.1.) and outside



it (Warr et al., 1970). Where this occurs, the levels may not form a chain of cause and effect, nor (at the levels of job and financial performance) a feedback loop for assessment and improvement. There may, of course, be room for improvement in relating training to the job; hence the need to study between levels.

### 3.3. Objectives

3.3.1. The next task is to investigate whether further problems may be expected from the role of objectives in the training evaluation. The closed-loop model implies that objectives should be an integral part of the process. This was also an assumption of one of the preliminary hypotheses discarded (see 2.5.2. and 2.5.3 supra). The importance of objectives is asserted (or in some cases assumed) by many writers on evaluation; at least three (Jones, 1970; Besco et al., 1959; MacArthur, 1976) give them top priority in the evaluation process. Ritchie, Kinnear and Claxton (1976) identify the need for objectives as a distinctive feature of evaluation research in any field.

Sadly, experience shows that well-formulated objectives are often absent from training (see 2.5.11 supra). Where they exist, they may be vague; and, whatever form they take, they may not be followed. In addition,

such objectives as are formulated rarely relate to the anticipated cost effectiveness of training (Suessmuth, 1974); financial benefits may be implicit, but the objectives appear more normally to be expressed in learning terms, as in 2.4.4. and 2.5.2. Even these may not be described in a behavioural manner, without which, Mager (1962) argues, it is impossible to test training efficiently.

3.3.2. In some cases this is a shortcoming in the process of planning training; but there may be good reasons for the absence of perfect objectives. In the first place, it has traditionally been an assumption that objectives will refer to learning rather than to cost/benefit. Thus the Glossary (Dept of Employment 1971, p.9) makes the distinction:

"Evaluation differs from validation in that it attempts to measure the overall cost benefit of the course or programme, and not just the achievement of its laid down objectives." (p.9)

Here cost/benefits are considered to be something different from objectives; in fact, it is very questionable whether they are mutually exclusive. This distinction has been criticised recently (Hamblin, 1974; Ashton & Gibbon, 1974), and it does seem clear that, for the purposes of practical evaluation, hypotheses of training should be developed which indicate proposed benefits in financial terms.



A second problem, however, is that training will, almost inescapably, have some results which are not planned - results at all levels, and potentially either good or bad. Meigniez (1963) is of the opinion that any definition of evaluation should include consideration of unplanned results. It would be unrealistic to expect training to have no fortuitous side-effects, or trainers to foresee every implication of a programme in advance of its execution. Some results are what have been described as "ceremonial" (Belasco & Trice, 1969a), such as giving staff a chance to reassess their work away from the job, allowing them a break from their routine, or demonstrating that their development is the employer's concern. Such results are seldom explicitly stated, perhaps because, though they may improve performance, they may do so by means other than bringing about learning.

In the third place, although Mager's case for objectives has the support of weighty psychological opinion (e.g. Miller, 1962; Gagné, 1970; Gagné & Briggs 1974), a body of educational theory has recently been developed, which questions the importance of objectives at all, and particularly behavioural ones (see Macdonald-Ross, 1973). This can be explained partly as a difference in outlook between 'education' and 'training', where education is not specifically related

to any one job or skill, but is for the general enrichment of the student's life. That is not a very helpful distinction, though, as much that passes for 'training' in industry and business involves at least an element of education. The two are combined in many situations, so that the function of goalless training cannot be dismissed. A number of Macdonald-Ross's criticisms of educational objectives are intended to apply to training also, because there are further difficulties in Mager's position. Above all, it is evident that feedback occurs, not only from the end results of training, but also continuously during the course of training, where a two-way relationship has developed between participant and trainer. This implies that objectives, methods and results may all be modified during the training process; Scriven (1976) describes assessment of curricula for their continuous development as "formative evaluation", distinguished from "summative evaluation", which assesses the final product of an educational programme. In the field of training a comparable position has been followed by Rackham (1973), who has distinguished "short-cycle evaluation" as the continuous improvement of training by immediate feedback, from "long-cycle evaluation", assessment of the results of training one group of staff in order to improve the training of others. Short-cycle



evaluation is the subjective assessment which every teacher or instructor carries out as he proceeds.

Even accepting that assessment of cost/benefits will normally be long-cycle evaluation, the fact that the short-cycle type exists makes it possible that objectives will undergo a change during the course of training. Additionally, different participants may have a range of objectives, distinguished by their personal approach, their type of job, or their appreciation of the courses aims. That this is especially so where participants are employed by different firms, has been noted in connection with a D.I.T.B. instructional techniques course (2.4.4.). It has been reported in the case of one course about the evaluation of training (Hamblin, 1968).

It also applies, to a lesser extent, within the same organisation, where participants may still vary in job, background, ability, motivation, ambition, management attitude, and so on. So, while research into training within the firm may have fewer problems, it is still likely to have a significant number.

- 3.3.3. The problems, in both principle and practice, with designing firm objectives which can be tested, have led some trainers towards 'open' rather than 'closed'

training goals. This distinction, developed by Coverdale, Cox and Watkins (1968), is based on the assumption that certain objectives are specified ('closed') while others need developing, particularly by the participant, as training proceeds; the latter are 'open'. If this is so, and it is clearly very likely, then it is difficult to see how objectives can be relied upon to play the part in evaluation which theory demands of them.

One might wish to have objectives, of learning, of behaviour and of cost efficiency, which would demonstrate the full purpose of training, as an hypothesis to be tested by evaluation. One might wish objectives to be sufficiently definite, so that the side-effects of training could be distinguished from the intended results. One might also wish these objectives to show the causal chain linking the training and its immediate effects with the ultimate cost/benefits. Finally, one might wish to look to objectives for aid in taking decisions about what payback periods to seek, and what time limits to impose on the evaluation process.

However, the evaluator must anticipate that many of these expectations may not be achieved. A range of reasons is apparent, to suggest that many of the purposes of training may remain unexpressed or un-



certain, and that this may be particularly so far as cost/benefits and timespan are concerned. It is, therefore, only to be expected that the measurement of benefits of training will be incomplete. If this is appreciated from the start, it may be possible to approach evaluation research with this in mind.

### 3.4. The Financial Benefits of Training

3.4.1. It is an opinion held by some, that training should be carried out only if a financial benefit can be proved to follow. For the reasons given in sections 3.1. to 3.3., this view is difficult to accept. It is most commonly associated with Odiorne (1964), and some writers on the evaluation of training (such as Whitelaw, 1972; Cowell, 1975) are critical of his position. In fact he does accept some training as "capital budgeting" (junior management development, for instance), where the economic benefit is anticipated but not proven. In effect, Odiorne can be interpreted as arguing for financial objectives, rather than for financially-measured results. With this, the position taken in 3.3. above concurs; although Odiorne is rather more sanguine about the possibilities.

Nonetheless, the strict view of the need to obtain all the facts about financial results has been put forward elsewhere (Wilkinson, 1975), and it is one that must,

before proceeding further, be stressed as unrealistic. The conditions under which it assumes training to take place are largely imaginary; and if it was accepted, it would inhibit the progress of both training and evaluation studies, by the restraints it imposed.

- 3.4.2. A more common view is that cost/benefit evaluation is virtually impossible. This seems to be the opinion of Kirkpatrick (1967); of Warr, Bird and Rackham (1970); of Hamblin (1974); and of Cowell (1975). However, Kirkpatrick makes it clear that certain types of training may be easier to evaluate financially than others; typing and accident prevention are among the examples he suggests. Also, it must be stressed that Warr et al. and Hamblin were both dealing largely with management training. It may be possible, therefore, to distinguish areas of training where cost/benefit techniques can be used. Kirkpatrick's suggestion seems to be that these are most feasible where individual output is easily measured, where errors can be recorded, or where participants and management could be asked to identify job changes following from training.

For it is generally accepted that 'ultimate' evaluation may be desirable (Whitelaw, 1972), and Roberts and Stone (1975) argue that the real benefits of training are



underestimated. It is worth noting, however, that they suggest as remedies for this undervaluation, not specific methods of measuring benefits, but more systematic procedures for planning, costing and carrying out training. This must surely relate to the difficulties of practical measurement which have been discovered, and which will be summarised shortly (see 3.5. *infra*). In an interesting study of firms from a range of industries in North America, Catalanello and Kirkpatrick (1968) found that 45% claimed to attempt to measure the "results" of training (that is, financial benefits, or those which might be interpreted directly in financial terms, such as changes in output, absenteeism or staff turnover), but that in fact the majority of these were using highly subjective and unsystematic methods of assessment.

So it is not hard to accept Hamblin's view, that "there is a large element of 'guesstimation' in the methods used" (Hamblin, 1974), and that this carries dangers if the possible margin of error in the results is not appreciated. This can hardly be stressed too firmly, in advance of any empirical findings.

3.4.3. A major drawback caused by the many difficulties discussed, is that, whatever estimates of financial

benefits are made, it may well be impossible to demonstrate a full, continuous chain of causation bringing them about. In other words, even if a measured change in financial performance takes place, the evaluator should be able to show that this was due to particular changes in behaviour on the job, due in turn to specific learning, which was itself caused by the training. Hamblin might also argue that the learning should be attributable to specified reactions caused by the training, although this appears to expect a vast amount of detail to be known. As he asserts: "we cannot evaluate training by jumping straight from (training) to" ultimate value,".... we must first evaluate at other levels." (Hamblin, 1974, p.173).

This imposes major strictures; although it is quite possible for a decision on what 'ultimate value' is expected, to be based on at least an unconscious assessment of how the causal chain might work. A firm might provide sales training because, if it rationalises its intentions, it believes that turnover (and hopefully profit) will increase as a result; and the decision-maker will not need to be a qualified psychologist or economist to explain, at least roughly, how this would happen. This seems to be an example of the compromise in methodology which Burgoyne and Singh permit for decision-makers (see 3.1.6. supra).



3.4.4. One difference between the approaches of the psychologist and of the accountant or economist can be illustrated by the question asked in 2.1.6, 'how much training is worth doing?' The stress of cost/benefit assessment is likely to fall first on the issue of the quantity of training (Gibb, 1972), before it provides a comparison of the quality. The strictures imposed by Hamblin tend to bear this out. Where it is feasible to assess financial benefits, it may not necessarily be possible to trace these back through their behavioural causes. This might make it difficult to compare different types of training; but if apparent benefits can be estimated and compared with costs, it might still be possible to assess whether the right amount of training is being carried out. Thus an evaluation might be made of training for different lengths of time, or of instructing in groups of different sizes, or of extending training from one group of people to others; rather than of changing the subject matter of a course, or the instructor, the technique used, etc. There are two reasons for this. The first relates to the limited accuracy with which it seems likely that investigations will be carried out. As it is probable that compromises in method will have to be made, it may be more feasible to assess marginal differences in costs and benefits as the amount of similar training changes, than to draw

together information about different types of training. Secondly, if types of training are to be compared, a different causal chain relating learning to ultimate results may need to be analysed for each; again, this involves much more effort, and probably more 'guesstimation', than comparing the results of different quantities of training, derived from the same causal chain.

It has already been seen (2.1.6. and 2.5.10. supra) that "how much training?" is the central problem in a cost/benefit analysis, and this corresponds with the common experience of trainers. Training management are seldom in the position of questioning whether or not to train at all; they wish, more often, to determine whether they should be training more, or less. Though this should be no problem in principle, there are once again practical difficulties to be faced in establishing such research. An appropriate study would require that, for example, training of different lengths was carried out and was available for comparison. Discussion with many firms in distribution found no examples of this, and no trainers prepared to establish such training for experimental purposes. One organisation was subsequently found (see chapter 10), in which training was taking place at intervals; and it was hoped to measure the marginal



changes in costs and benefits after each unit of training. However, before half of this training had taken place, the company cancelled a substantial part of its training activity, and made a number of its training officers redundant, including the one running the training in question. Hence it became impossible to measure the benefits.

3.4.5. It was, therefore, determined that studies should be sought which might permit an analysis of the quantity of training carried out, in terms of numbers of staff trained, numbers of training programmes attempted, or such considerations. If it then proved possible to carry the comparison further, to study training of different lengths, or to study different quantities of training of different types, then so much the better. But it was foreseen that this might well not be practicable. Many reasons for this have been identified, and can now be summarised and classified.

### 3.5. The Problems of Cost/Benefit Evaluation

3.5.1. A range of problems has been found when evaluation has been attempted, and it seems that they can be grouped into two main classes. Whitelaw (1972) distinguishes "problems which arise from the nature of the behavioural sciences", from those "which arise from the variety of factors influencing a manager's task". This

differentiation can be compared with that of Besco et al. (1959), who conclude with "two general principles" as a basis for evaluation; these are: "(1)Goals and needs must be precisely defined," and "(2)Before and after measures must be taken on both the trained and control groups." (p.24)

These two principles state methods for solving the two problems, although they are easier stated than undertaken. The problems themselves are distinguished also by Schwind (1975b), who describes the "two major issues" of "methodology and criterion". The criterion issue he specifically relates to objectives, while pointing out that these, if they exist at all, are often "vague and ambiguous". As far as the other issue is concerned, Schwind asks, "Should the methodological design of an evaluation study be strictly scientific or can it be adjusted for practical purposes?" This latter question harks back to the issue raised by Burgoyne and Singh, to which this discussion has returned on more than one occasion: is evaluation 'an end in itself', as rigorous in method as possible, or is it for feedback which can lead to practical decisions, even if taken on information less than totally accurate? The types of feedback that may be gained will be determined in more detail when the benefits of evaluation are discussed (14.2., infra).



Woodward (1975b), too, describes "monitoring problems" - that is, broadly, those arising from the goals of training and from the difficulties of measurement in the behavioural sciences - and "cause-and-effect problems", which derive from the difficulty of isolating the different factors that may contribute to results, where strict methodology is not always possible. He, however, groups these two together as "performance measurement problems", in distinction from "valuation problems", which concern taking such results as are measured and expressing them in financial terms. This is not so much a radically different conception of the problems, as a question of the field Woodward is studying. He is concerned with "economic evaluation", while Whitelaw, Schwind and Besco et al. are not specifically discussing cost/benefits

Woodward's contribution to the debate is valuable, because he also distinguishes three types of information which can be collected by the evaluator (Woodward, 1975b). These are first, "identifiable" data, which cannot be measured; secondly, "qualitative", which can be measured but not valued; and last, "quantitative", upon which a value can be placed. Potential examples of these have been given; thus the general benefits from getting a fresh view of one's job during training may be identifiable, improvements in

productivity may be qualitative, but quantitative results would require that this productivity change should be expressed in terms of costs reduced, profit increased, or some such measure. The difference between quantitative information and the rest parallels the difference between "valuation" and other problems.

One should hesitate to argue that valuation problems are really distinct from the other two types that have been distinguished by many writers. The example given by Woodward, of estimating costs saved when absenteeism has been reduced, is related to the problem of monitoring and assessing criteria. In this case the problem is met at a different level of evaluation from the one where it normally confronts the evaluator, since looseness of objectives is more often seen as the cause of difficulties in determining the change in learning or job performance, rather than the ultimate benefit once a performance change has been demonstrated. It is evaluation, but not a cost/benefit analysis. Yet it still appears to be at root a measurement problem, distinguishable because the information involved happens to be quantitative, involving valuation as well as measurement.



3.5.2. The major problems of evaluation are, then, twofold. First, there is the question of identifying the precise nature of the results to be measured and valued; secondly, the difficulty of ensuring that changes after training were not caused by other factors.

As far as the measurement problem is concerned, the difficulties are related especially to the need for accurate information systems and thorough objectives. Lack of proper records may cause major problems. Decisions on the timespan for measuring results must also be considered under this heading, as must the question of whether to look for results occurring indirectly, through, say, the subordinates of the participants in training. It is well-known that in management training the "targets of change" (Katcher, (1976) are often formulated inaccurately. This relates to the need for definite objectives, an aim whose shortcomings have been discussed. At the same time a number of side-effects might be produced by the training process, even if the objectives are clear; it is not likely that all of these will be identified, still less measured. It may be that "curative" training (Woodward, 1975b), concerned with meeting a specified problem, will, as a result of these measurement difficulties, be more easily evaluated than training aimed at preventing future problems.

The causal chain leading to results may be clearer in such cases.

In the case of the other major drawback, one may follow Belasco and Trice (1969b) and Williams (1976), in describing this as the problem of 'contamination'. Assuming it is possible to measure results after training, how is it known that these were caused by the training, and not by other factors? A number of influences can have a radical effect on performance, and so can contaminate the results of training. These may include the national economy (as in the case of staff turnover mentioned in 2.1.4.), changes in company policy or systems, management or staff personalities, the evaluation method itself (Belasco & Trice, 1969a), and many other factors. In a different article from the one just cited, Woodward (1975a, p.44) comments: "Most plants ..... are subject to a gradual learning process, so that long-run increases in performance can be expected in the normal course of events." (p.44).

The timespan of a study, it would seem, may cause not only measurement problems, but contamination ones also; in due course, the research into induction of school-leavers (see 11.3.5) will appear to confirm this.



Jones and Anderson (1974) consider contamination to be the greatest problem of evaluation, and suggest the near impossibility of such research as a result. The normal experimental method for dealing with the contamination issue would be the use of controls - and probably of a control group. In fact, a number of studies suggest that this is extremely difficult where a research design is based on analysis of what is actually taking place, rather than on an artificially constructed situation. It has been noted that it is often not practicable, for example, to compare all the alternative methods or quantities of training, or to compare training with no training, which a controlled experiment might seek to do. The method which goes into most detail in setting up controls to meet the problem of contamination (including by the testing process itself), is the four-way design of Solomon (1949), the use of which is considered by many writers (e.g. Belasco & Trice, 1969a and 1969b; Campbell et al. 1970; Whitelaw 1972; Hamblin, 1974; Schwind, 1965b; G Williams, 1976; Kane, 1976). However, in nearly every case, they cast doubts upon its feasibility. It involves taking four groups of subjects, and treating them so that each group receives a different combination of the presence or absence of training and of testing before training. While in theory this permits the researcher to isolate the

effects of training from both those of testing and those of external influences, it encounters a number of practical difficulties. To work effectively, even at the level of learning, a pretest and posttest must both be feasible; enough subjects must be available so that at least half can remain untrained, and so that the number of those trained is still large enough for only half of them to be pretested (with results likely to be statistically significant); it has to be practicable not to train half the subjects; and four groups must be available which are similar enough to provide a controlled experiment.

It has been argued (MacKinney, 1957), that at least one control group is essential. But in fact a researcher in the training field is fortunate if one is available (Buchanan, 1955), and this is also a restraint common in research into evaluation of most activities, according to Ritchie et al. (1976). The present research will suggest that attempts to establish controls may be of limited success for a number of reasons. Among the difficulties already mentioned, are included the virtual impossibility of predicting accurately who the training participants will be, and the feasibility of allowing people to work with no training. The latter issue shows that the problems at the level of learning are aggravated when job



performance and financial benefits are also to be assessed. Often, it may be possible to anticipate what types of contaminating factors will react with training to bring about specified results, and this may assist the success of the research. One cannot though help agreeing with Williams (1976) that, in practice, an evaluator may have to rely on research designs of low validity (although some might argue that validity is a quality of the measuring instruments rather than the designs), especially at what he describes as "the higher levels of objectives". It seems that by this phrase he refers, not to the levels of evaluation as outlined (3.2), but to objectives which are most 'open' and least behavioural. The two problems, of measurement and contamination, may well tend to become confused where the results to be measured and valued are the financial benefits of loosely formulated training.

- 3.5.3. It is evident that these two problems will interfere in different ways with different types of training. In some cases, contamination will be most likely; while in others, there will be various types of difficulty in identifying the results to be measured. The problems must be expected to vary from one training situation to another. Consequently, it would be pointless to attempt to prescribe specific methods

of evaluation for specific types; the absence of any accepted typology of training supports this conclusion. Rather, the appropriate aim for research such as the present study should be to develop a model which is concerned with the feasibility of cost/benefit evaluation in distributive training as a whole. If this is done, it might be expected that training practitioners could adapt this model to be applied in specific situations. Such a model must take into account the problems considered in this section, and touched upon at various points in this chapter. The next chapters will show how such a model was developed in more detail. In parallel with this, a case study approach was being used to suggest the structure of the model, and then to test it in a variety of training contexts within the distributive industry.



THE COSTS AND BENEFITS OF TRAINING

"You never know what is enough, unless you know what is more than enough"

(William Blake, *Proverbs of Hell*)

*In this chapter the conditions for costing training are analysed and it is conjectured that training costs will consist of fixed and variable elements. The financial results, or benefits, of training are then classified into seven types, by reference to other writers; it is conjectured that these benefits will tend to be subject to diminishing returns as the quantity of training increases. A general scheme is developed for comparing the costs and benefits of different amounts of training, and a research hypothesis is stated which considers the feasibility of this model and its possible application to actual training activities.*

4.1. Training Costs

4.1.1. It has been established that any exercise in evaluation will involve comparison (see 3.1.4. supra); and so it is imperative that, when the benefits of training are assessed, the costs should also be measured if a complete evaluation is desired. This is not always made evident in discussions on the assessment of training, as the emphasis in much of the literature is unequal between benefits and costs - that is, between the output and input of training, as in 3.1.4. Perhaps benefits receive greater stress because they are what it is intended to achieve -

that is, they represent the objectives of training (even if sometimes formulated after the event). Again, since objectives and benefits are often expressed in non-financial terms, it might not be felt appropriate, or necessary, to consider financial costings. A third possibility is that measurement of benefits appears to be such a major problem (as Chapter 3 suggests) that it is in far greater need of research than measurement of costs. So some reach the paradoxical position where they consider the difficult question of benefits with little or no regard to the apparently easier issue of costs. Examples will be given from distribution (see Chapter 6 *infra*) to suggest that this applies in this industry also.

The other extreme is achieved by Garbutt (1969) and Ellis (Talbot & Ellis, 1969), who both deal with evaluation as one final chapter in books about the costing of training. It is clear from their work that measuring costs is a complex matter, and it may well be that still greater difficulties with benefits have encouraged an attitude which ignores costs as an unavoidable overhead not in need of consideration. It appears that a complete account of training costs is seldom kept by management (MacArthur, 1976; Gilbert, 1976b), and hence it is still less likely that training will be treated as a profit centre (Gilbert, 1976a). Cowell (1972) believes that one of



the results of the Industrial Training Act, 1964, has been to make training costs more explicit, but this is certainly questionable in distribution. During the course of the present research a variety of costs were found to be included in, or excluded from, the training accounts of different firms; there was no firm who attempted to aggregate all training expenditure into one cost centre. A number of recent articles (Roberts & Stone, 1975; MacArthur, 1976; Gilbert, op.cit.) suggest that a greater awareness is developing among consultants of the need to cost training, but it is questionable whether this is yet a view held by training management.

- 4.1.2. It should be clear that this thesis agrees with an equal stress on costs and benefits. Firms in the distributive industry are largely motivated by profit, and it is impossible to show that any activity is profitable - that is, that financial results exceed costs - unless costs are, at very least, estimated; and training is no exception. In addition, an assessment of both costs and benefits is needed before the optimum quantity of training to provide profit can be gauged; and some method must be found to render both in the same units. A survey of the literature in this field suggests that no costing system has been devised for distributive training, and it was felt by the D.I.T.B. that one was needed as part of the present

research.

4.1.3. The literature survey did, however, bring to light various schemes for costing training without reference to any specific industry. Thus Garbutt (1969) follows the classificatory system for expense groups of Ryall (1952) and groups training costs under ten headings. Ellis (op.cit.) in turn quotes Garbutt's list. This classification is not exhaustive - for instance Garbutt excludes I.T.B. levies, which he deals with in his book quite separately - and he confesses that the type of industry involved is an important factor in determining what should be included in such a list. Garbutt's concern appears to be mainly with manufacturing.

Thomas, Moxham and Jones (1969) instead of using this sort of "shopping list" approach (Hall, 1976), classify costs under seven general headings, though these are distinguished more by the stage of the training process at which they occur than by the type of expense incurred. Thus "servicing and co-ordinating the training function" is separated from "giving instruction" even though some equipment (such as certain furniture) or materials, (stationery or fuel for instance) might be included in both. A similar concept lies behind the categories suggested by



Woodward (1975a) who groups costs into four classes: "training", "capital", "covering" and "off-the-job".

Such is the position in Britain; but two recent articles from Canada have discussed the question of grouping and recording training costs, and their debate sheds some light on the issues involved. Suessmuth (1974) lists costs under eleven headings, providing a framework not dissimilar from that of Garbutt, although (like Woodward) he includes various 'costs' that do not actually involve the outlay of money. This provoked a reaction from Caramancion who questions (Caramancion & Suessmuth, 1975) and modifies a number of these non-accounting costs.

- 4.1.4. The details of these various costing schemes, where they are of importance, can be considered along with the development of a costing system for distribution in this thesis (see Chapter 5). But first it is essential to consider the question of what constitutes a 'cost', in view of the different attitudes taken in the schemes just referred to. No system of cost/benefits can properly ignore the difference in approach to the meaning of 'cost', between the disciplines of accountancy and economics. The distinction is sometimes drawn (for instance, by Hall, 1976) between "accounting costs", which consist of actual expendi-

ture on an activity, and "opportunity costs", which comprise the total sacrifice of resources involved in choosing to spend on one activity rather than another, and thus being alternative opportunities. Garbutt (1969) and Morris (1977), both make this comment, and then continue by suggesting that opportunity costs are unlikely to be measurable. This may be true, though it would be unwise to dismiss consideration of them on that account. Woodward (1975b) is definite that both need to be recognised, though he describes them as "financial" and "resource" costs respectively. This confusion of names is added to by Thomas et al. (1969) who, in their discussion of the issue, remark that "all economic costs are opportunity costs"; in other words, accounting (or financial) costs are not something different from opportunity (or resource) costs, but are rather one type within them.

Perhaps the best terminology to use in this connection, and to make the distinction clear, is to refer to 'accounting' and 'non-accounting' costs. By this usage, 'accounting' costs are the actual outlays of expenditure (the "financial costs" of Woodward). 'Non-accounting' costs are the value of any opportunities lost or sacrificed (Woodward's "resource costs"), other than those where an actual outlay of money is accounted for. The distinction is important because



training can involve a loss of production, which may need to be considered as such (Suessmuth, 1974) or, as Caramancion prefers (op.cit.), as a loss of profit. On the other hand it might involve the loss of some alternative investment, and one notes that some accountants include "loss of interest" when making cost estimates. Where such issues can be seen to apply, they should surely be considered.

- 4.1.5. At the same time, it is possible to conceive of a situation where the absence of an employee on training might cause production to increase. Perhaps his work is so poor that it adversely influences the performance of his team, or his demeanour irritates customers to the point where it loses sales for the firm. In such a case, the training (which is evidently needed, urgently) has a "non-accounting" cost, but with a negative value.

Such a situation, where the same element of training might have either a positive or negative value, occurs in a number of cases. For example, the question of 'slack' (see 4.2.4. infra) may well be a difficult one. Slack resources, such as spare time or unused plant, might be created by training, if work was done faster, thus reducing net benefits; alternatively, such slack resources might be available

for use in training, so that the net benefits are increased. The former case parallels that of the non-accounting cost, where a valuable opportunity is foregone. If the words 'cost' and 'benefit' were to be used to refer to loss and gain respectively, slack resources, like changed output, might be either a cost or a benefit, depending upon the circumstances.

This is clearly most confusing, to have the same elements of training appearing on either side of the cost/benefit comparison. In addition, it makes it more difficult to estimate 'costs' if the term is taken to include all non-accounting costs. It seems that it is best to restrict the term, in a cost/benefit system, to those that are real accounting costs, so that then all elements that may be either sacrificed or gained would be considered as results of the training, or benefits. The term 'results' might conceptually be preferable for the latter, since it follows from what has been argued that they may not be beneficial. However, the word 'benefits' has much greater currency in this area where cost comparison is made, and so for convenience will be used in this thesis; it must be noted, however, that a benefit by this definition could have a negative value.



4.1.6. It was on the basis of such a distinction between costs and benefits that the costing system for training within the distributive industry, which is described below (Chapter 5), was designed. It was felt that the system would then need to classify accounting costs into expense groups in a way which distinguished the types of goods or services purchased - that is, along the lines of Garbutt's or Suessmuth's classifications. And in addition, it was clear that a system would require that adequate records of training were kept. The lack of good records was a problem already noted during the research (see 2.5.3.), and it is touched on by a number of the writers concerned with costing training, including Thomas et al. (1969) and Garbutt (1969), who feels the problem is implicit in Seymour's work (1954).

Apart from these three provisos - about non-accounting costs, classification, and adequate records - it was felt that the conceptual problems in the design of a costing system were few. Whether such a system would prove acceptable to management in the distributive industry was a different matter; for it was appreciated that the result of such an exercise might be the calculation of a frighteningly large figure which represented the 'total cost of training'. This

is a problem which has been recognised by agencies encouraging training (Johnson, 1976) and it emphasises the need for evaluation of benefits as well as costs. It will be seen in due course that the fear that it might prove a difficulty was well justified.

4.1.7. Analysis of costs leads to the conclusion that financial input to training would resemble the costs of other activities in that one component of them would be fixed, irrespective of the training quantity. Some costing systems (such as those of Thomas et al. and of Woodward) attempt to distinguish and prescribe which costs will be fixed and which variable, though they do not always agree on their classification. Presumably it would not be possible to state any universal principles to distinguish fixed and variable costs, for this must depend on the nature of the variable being considered - whether it be length of training, number of participants, number of instructors, quantity of training programmes or whatever.

One general assumption may be made about training costs, and about the effect of plotting costs against quantity of training. The line produced by



this is shown in figure 4:1, and it will be seen that the cost is positive for any quantity of

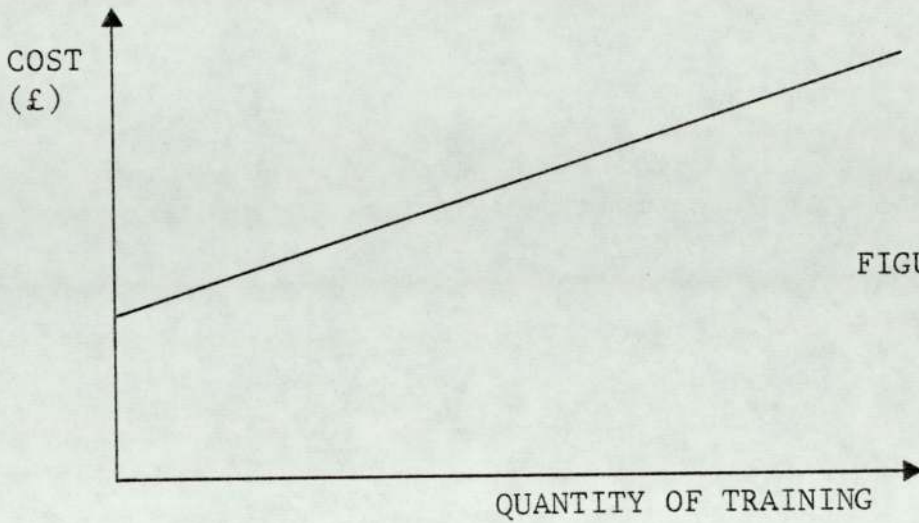


FIGURE 4:1

training. On the assumption that some sort of 'training function' exists, there will be a certain cost even if no training takes place. A marginal increase in quantity will normally be accompanied by a marginal increase in variable costs; this rate of increase is shown as linear in the figure, though of course it may curve, showing either an increased or decreased rate of change as training increases in quantity. Thus in particular cases, the precise nature of the curve will depend on a number of factors, of which the horizontal variable is one. However, in general, it seems reasonable to conjecture, that fixed and variable costs do exist; and this is perhaps an assumption that needs to be tested.

## 4.2. The Financial Results of Training

4.2.1. It has been established that non-accounting 'costs', while not to be disregarded, should not be included in the cost/benefit calculation as costs, and that hence they must be considered under the alternative heading, that of benefits. Some justification of this has been given. In many cases, the non-accounting considerations are costs to the organisation but not to the training function, since, in relation to this function they are results of the decision to carry out training. Thus, in this research, they will be called the benefits of training or, where appropriate, the negative benefits of training; recall that the term 'benefits' is being used out of convenience. This convention is of advantage, because its effect is to ensure that one side of the cost/benefit comparison can be assessed as definitely as possible, while the aspects of training which may unavoidably be no more than estimates are kept together on the other side. At the same time, those aspects which might act either favourably or unfavourably towards the firm can be considered under the same heading.

4.2.2. Various attempts have been made to classify benefits, some of which have difficulties with the question of opportunities lost or gained, and no generally agreed criterion for a taxonomy exists. Thomas et al. (1969)



found three areas in which benefits might accrue: "higher performance levels, shorter training periods, and longer retention time." This includes more than is at once apparent, since the length of training periods is a factor derived from comparing learning times for many different training methods (and hence the question of opportunities enters), and retention times depend on such matters as rate of staff turnover. Jones (1972) developed this classification, and described these three benefits as "direct changes" in contrast to three other results which he groups as "indirect" changes (changes in demands on supervision, performance of others affected by the participants' work, and the degree of adaptability of staff), and "subsequent" (or "longer term") changes (in the ability of candidates for jobs, and in other factors limiting performance). In fact it seems that many of these indirect and subsequent changes may properly be included within the first three classes.

Woodward also (1975b) divides benefits into three groups, though they are a different three. He breaks them down into "short term", "long term" and "insurance" benefits, which do not seem to correspond to either Thomas's or Jones's distinctions. Woodward is, however, dealing with supervisory training, while Thomas et al. are more concerned with the skills of

operatives, in common with other writers such as Seymour. One concludes from this that the types of benefits which accrue from training will depend at least in part on the type of training involved, and it seems clear that the benefits ought to relate to the objectives of training in each case (with the reservations about objectives mentioned in 3.3.). Therefore it is unlikely that there could be an all-embracing analysis of benefits, though the schemes which exist should certainly be taken into account.

One of the problems with Woodward's classification is that it is not clear whether all the benefits he gives as examples can be expressed in financial terms. It is inevitable that many cannot be so expressed, but financial benefits are needed if they are to be compared with financial costs. Any list of benefits that is developed must consider this at the same time as it attempts to cover all changes in performance that might be sought as a result of training.

- 4.2.3. With these provisos borne in mind, the main types of benefit can be suggested and described. First there are increases (or possibly decreases) in output brought about by the participant's changed performance. Such changes may, in Jones's term, be direct; or they may be indirect, in that the actual producer of



the changed output might not be the employee trained. Especially in management and supervisory training it may be others who actually sell or produce more. Jones (1972) lists changes in "demands on supervision", "degree of flexibility of adaptability", and "other factors limiting performance", as separate benefits; but these may all be essentially changes in output. Similarly they may be either short term or long term by Woodward's classification.

Related to increases in output are decreases in errors (or possibly increases) brought about by the participant's changed performance. These may actually cause an improvement of output, or they may simply cut the incidental costs (e.g., of scrap) in the work system. They also come under a range of headings in Jones's and Woodward's schemes and they may often be what Woodward calls "insurance benefits".

- 4.2.4. The third type of benefit comprises the consequences of the participant's absence from his job. This is one result that might otherwise be considered a "cost" in terms of reduced output during training, loss of sales, payment of replacement, and so on. And indeed, Woodward (1975b) does deal with replacements as a "covering cost", which he notes in his field "tend to be small or non-existent"; while Suessmuth (1974)

also includes replacement as an expense head. The difficulties with this position, however, are illustrated by Suessmuth's argument, since he falls into the trap of doubly counting the same training "cost". Training cannot be held responsible for the full cost of both employing the participant and replacing him on the job. One or other of these, where they are equal, is the cost of doing the actual work, and this led to Caramancion's revision of Suessmuth's scheme (Caramancion & Suessmuth, 1975). Where they are not equal, an adjustment for the difference may have to be entered into the analysis, but this is not normally a "cost of training". It is the cost of keeping the work going while training is under way and is thus a result of the training.

Similarly, changed output during the training period should be viewed as a result (that is, a benefit, presumably a negative one), even though Woodward describes it as an "off-the-job" cost, and Suessmuth makes "lost production" one of his costs. In this case also, Caramancion felt it necessary to modify the scheme; he pointed out that only the profit lost should be taken into account. That modification is right, because a positive benefit may be said to exist in saving the cost of the goods to be sold (or the materials to be processed) which remain in the



possession of the firm, as well as the marginal expenses of each sale or manufacture. However, because there are both positive and negative benefits here, and because it is a question of lost opportunities, it is far more simple to consider all aspects of this as the results of training. It should be noted that if the participant was a liability to his job (as in the example in 4.1.5. supra.), then his absence might actually cause an improvement. So the consequences of his absence might be 'benefits' in every sense of the word.

- 4.2.5. The fourth benefit of training is the amount of slack resources created or used up. Beneficial results arise where an employee or a piece of equipment which is underutilised is put to a fuller use. This consumption of slack time is of positive value, and may almost fully compensate for the cost. For instance, if an employee was excess to requirements and contributed to the running of the organisation only 25% of the time, sending him to train would result in 75% of his time, previously slack, being used. Since the whole of his pay would have been allocated to training costs, the value of 75% of it should be attributed to the results of training; the 'net cost' of his training, to the organisation as a whole, is only 25%, as the rest would, in any case, have been

spent for no immediately productive purpose.

The opposite case, of slack being created, can occur when training results in an improvement in performance which can be put to no valuable use. If the trainee carries out his job in a shorter time, the time saved will have a value corresponding to the work that can be done in it. However, this assumes that such work is available to be done. If it is not, and the employee has still to be paid, the positive result must be balanced, in whole or in part, by a negative result which corresponds to the slack time created.

Another case, similar to that of slack time, occurs where an employee (this might apply to management) carries out his job even though he is absent on training. Perhaps this involves working overtime, but if the extra time is unpaid, there is a positive benefit in the value of the work done. This positive benefit might completely balance the salary element in the cost of the training; in other words, there is no net cost for trainee's pay, because the same amount was paid as normal for the same job to be done. Of course, if performance deteriorated because of a manager's absence, that is a negative result which would have to be considered.



Some of these examples are covered by what Jones describes as "changes in other factors limiting performance", although he does not mention slack itself as a type of training benefit. Thomas et al., on the other hand, discuss the matter at some length and consider it important, while Woodward agrees that slack may considerably reduce "off-the-job" costs. Both of these articles, however, are pessimistic about the chances of measuring the effect of slack in any system under change.

- 4.2.6. Benefits of the fifth and sixth types are sometimes closely related. They are productive output during training and differences in investment needed to achieve the same effect with alternative methods. Training may have some productive output if it takes place on the job or under simulated conditions, and if there is some valuable end product. Thus where goods are being processed or made, the aim of the training may be to bring trainees to an acceptable standard of speed, and, as trainees approach this standard they may well produce output of an acceptable quality, though in small (but increasing) numbers. If this output can be used in the same way as output on the job, it is likely to have a value that can be attributed to the results of training.

The research of Seymour and of Thomas took place under such circumstances, and there is a tendency in that work to look upon this benefit as a reduction in cost (Seymour, 1954; Garbutt, 1969). Thomas et al. do treat them as results, but since they are concerned only with comparing old and new methods of training, their analysis overlaps with that of the sixth type of training benefit.

This sixth type occurs where alternative methods of achieving the same ends would involve different amounts of investment. These might be different training techniques, or an investment in different machinery, in recruiting staff already trained, and so on. If the training chosen saves money by comparison with these alternatives, the saving is a result which should, if possible, be costed and taken into account. In certain cases it may prove that a certain training method shortens the time taken by participants to achieve experienced worker standard; where this is so, account may need to be taken of both some productive work during training and an improvement on alternative methods, especially if the comparison can be illustrated by means of learning curves. On the other hand, if training was more expensive than alternative methods, the issue of lost opportunity would arise, and the difference would be expressed, in view of the



convention being followed in this research, as a negative benefit.

It is worth noting that Jones classifies changes in training time as a major short-term change (it is one of Thomas et al.'s three types of benefit), and argues that it should be considered a result rather than a reduced cost. This thesis concurs with that view; costs can be said to be reduced only if new training has replaced a former system (the case which Jones is referring to), but there is still an opportunity gained from using a technique that is more efficient than its alternatives, even if there is no question of one replacing another, and this must be described as a benefit.

4.2.7. Finally, benefits may arise from changes in rates of staff retention, where these are caused (normally in the long term) by the firm's training strategy. If such changes do become apparent, they may have substantial results by saving the costs of recruitment, termination, and also further training (especially induction). These changes which Jones classifies under "short term" may be difficult to measure, and the same is true of the closely related benefits which he calls "changes in the levels of ability of people presenting themselves". A firm with a good 'training reputation'

may attract better recruits (as was noted in 3.1.3.). These two benefits may together be described as 'changes in attractiveness of employment'. Of course, if staff turnover increased or the firm's reputation sank as a result of training, the benefits might be negative. However, since in distribution turnover has generally been high, and the industry's reputation for training poor, this is perhaps unlikely.

4.2.8. The seven benefits listed in 4.2.2. to 4.2.7. appear to cover all the items classified as the benefits of training by Thomas et al., by Jones, and by Woodward, and it is intended that they should have stressed likely areas for gains to be sought in distributive training. However, only a practical examination of such training will determine the relative importance of the various types of benefit, or how much each may vary with the amount of training carried out.

In general, however, it is possible to suggest what type of properties might be expected from the distribution of benefits as a result of changing the quantity of training. It has been mentioned that in some cases the results of training form a 'learning curve' which relates the output or result of training to the input in terms of, say, time or people. The 'learning curve' model of training may be taken as



the basis of a hypothetical framework for studying benefits. The idealised, smooth curve in this connection, is well-known as approximating to certain rates of learning (see, e.g., Knott, 1972). While reservations will shortly be expressed about its applicability in such a perfect form, it can be illustrated as in figure 4.2. It is a curve of diminishing returns which approaches an asymptote,

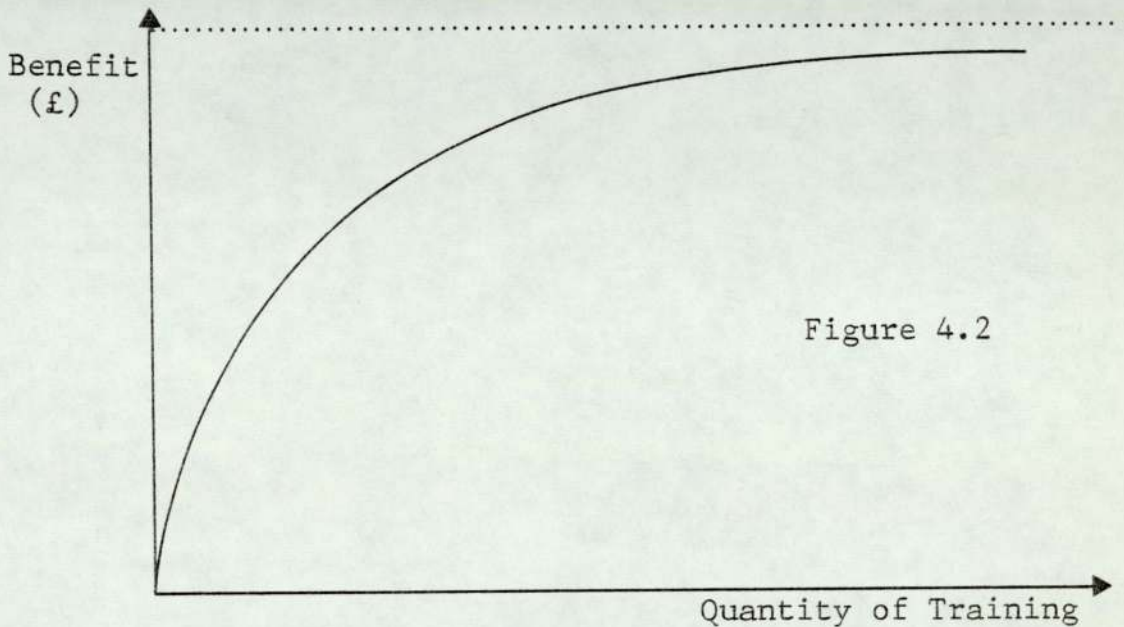


Figure 4.2

often identified as experienced worker standard, or as the maximum result theoretically achievable. In this form the curve fits a formula of the type:

$$y = P (1 - e^{-Lt})$$

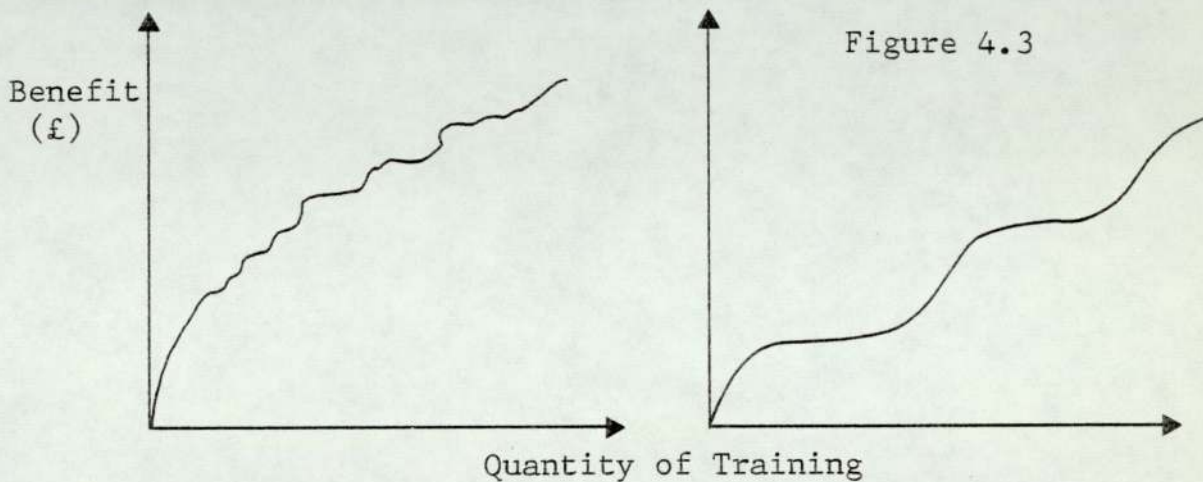
where P is the asymptote, t is the measurement along the horizontal axis (often, time) and L is a measure of the efficiency of training (Dewhurst, 1972).

As a concept this curve is a realistic approximation of what might be expected from the results of training. Dewhurst shows that it may be applied to output of work as well as to learning; and it may be supposed that in many cases the results of training (at whatever level) could be distributed in this manner. The curve passes through the origin of the graph (provided the benefits are measured as the difference from the state of affairs before training started), and this indicates that the absence of training will bring about no benefit. It then increases with diminishing returns, which accords with the contention that trainers will tend to carry out the most effective training first and then continue with training of decreasing effectiveness. Where different individuals, or groups, are trained it is reasonable to suppose that some will benefit more than others, and that the training is best aimed initially at those who will benefit most. The principle of diminishing returns has many applications in economic theory, and there is no reason to suppose that training should not, in theory, be one of them.

4.2.9. In fact, one cannot expect the results of training to follow perfect curves, and this must limit the applicability to evaluation of such a mathematically precise model. The actual curves described by writers



such as Seymour (1954) and Thomas et al. (1969) are not smooth, and those of Knott (1972) are lines of best fit. Both the literature and common experience suggest that in fact benefit curves are more likely to resemble those in figure 4.3., where the results either fluctuate around a general trend, or alternate between elements of increase and of stability.



However, two assumptions can be made about these curves of benefit, which in due course will need to be tested. In the first place, they pass through the origin of the graph, and in the second, the rate of increase in results from the first elements of training is not maintained throughout, since many of the later elements provide returns with a tendency to diminish.

#### 4.3. Comparison of Costs and Benefits

4.3.1. The discussion in this chapter has had two aims. One is to establish the nature of costs and benefits of training, and this will be summarised in the

hypothesis stated in 4.4. infra. The other is to suggest the general features of how these costs and benefits might behave under conditions of variation in the quantity of training. It has been noted that both costs and benefits may be anticipated from training and may be expressed graphically. Consequently it seems reasonable to deduce that the two may be compared together in the form of curves, and perhaps in other forms also.

- 4.3.2. Such a comparison has been attempted by at least two writers hitherto. Garbutt (1969) describes a method for establishing a breakeven point between two training methods in which the variable along the horizontal axis (that is, the 'quantity of training') is length of employment. Murdick (1960) also is concerned with a breakeven point, although in his case the quantity of training depends on the number of students. In both these examples, the cost curve has the properties described in 4.1.7., although the curves of benefits described by them take a range of forms. Garbutt refers to a "fixed benefit" which arises from training board grant; and the rate of change in benefits, as his quantity of training increases, is either linear or with increasing returns. Since the 'quantity of training' is in this case a measure of staff retention rather than strictly of training input,

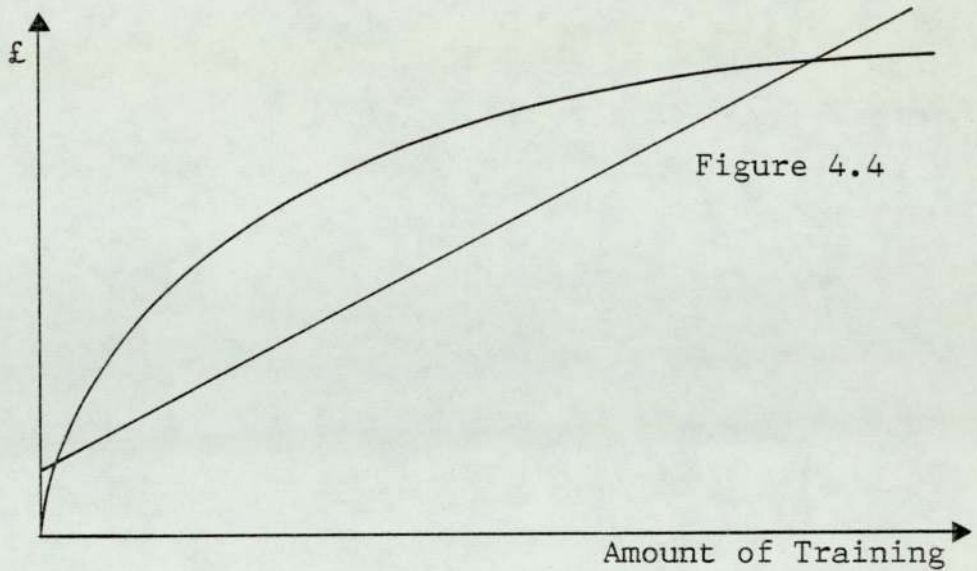


certain adaptations in the model might be anticipated. Murdick's benefits curves do originate at zero, and some are linear while others are subject to diminishing returns.

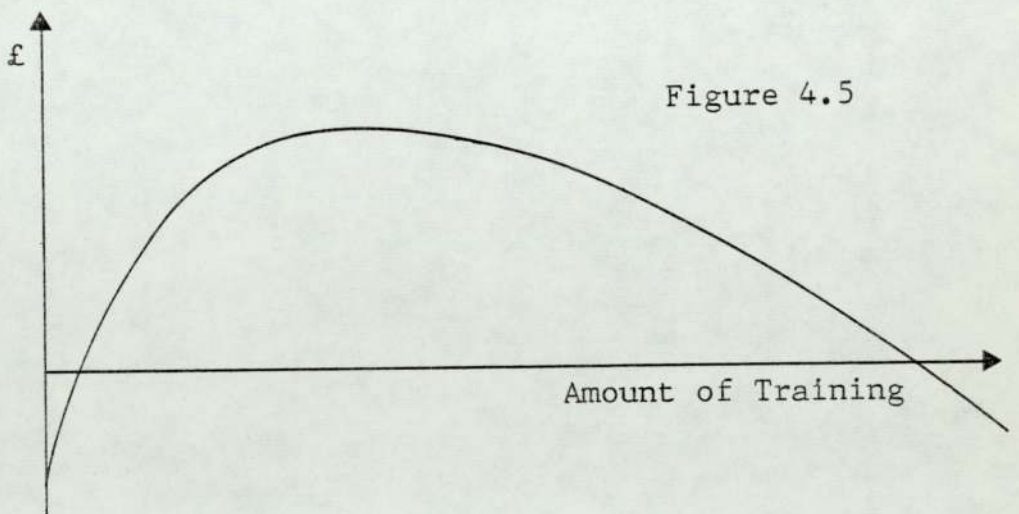
In fact, such comparison between costs and benefits, though not common in the field of training, is an established activity in various fields of management accountancy, such as production planning (see, e.g., Batty, 1965). The system described by Batty goes beyond the issue of establishing breakeven points, though it is certainly a major consideration. He stresses the value of being able to assess the optimum level of activity for maximising returns - in other words, the point at which the vertical distance between the cost and benefit curves is greatest.

- 4.3.3. It would seem feasible to apply such a system of comparing costs and benefits to distributive training. The principles of Murdick, Garbutt and Batty all suggest that curves of cost and benefit (such as those developed in 4.1.7 and 4.2.9.) can be superimposed, and, if diminishing benefits are anticipated, the superimposition would result in a graph resembling that in figure 4.4. On the assumption that both costs

and benefits are expressed in compatible units, the



cost curve may then be subtracted from the results curve to give a 'curve of net results'. It will be noted from figure 4.5. that this curve typically commences with a negative value at an infinitesimal amount of training, rises rather sharply to a maximum and then decreases, becoming virtually a straight line as the marginal increases in results diminish in





comparison with the marginal cost.

4.3.4. The theoretical curve of net results has four characteristic points which, if accurately determined, can be of assistance in the managerial task of deciding how much training should take place. These are shown in figure 4.6.

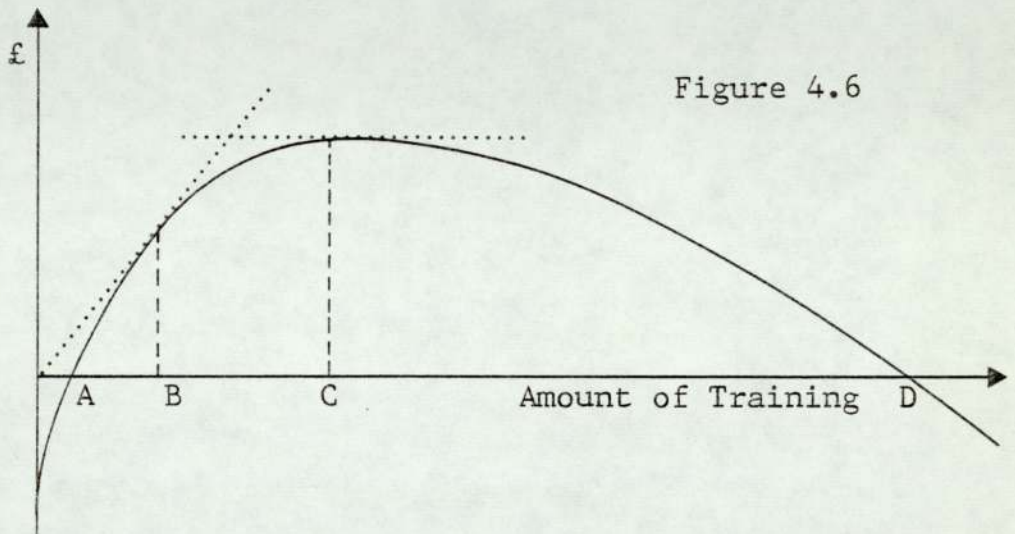


Figure 4.6

and are:

- a) the minimum point of positive net benefit. This is the breakeven point which occurs where the curve cuts the line of zero net benefit while it has a positive gradient; it is the amount of training where the benefit is equal to the cost, and it assumes smaller values as the gradient of the cost

curve decreases or the gradient of the benefit curve increases. This breakeven point will exist even if the benefits curve is not one of diminishing returns, providing there are some amounts of training which provide positive net benefits; should the net benefits curve be continuously negative, there can clearly be no minimum point of positive net benefit. However, as long as there is such a point, it may indicate to management the absolute minimum of training that should be carried out; in certain cases, it may indicate how quickly the benefits of training might justify the cost.

b) The point of maximum return on investment (M.R.I.)

This occurs where the straight line which forms a tangent to the curve passes also through the origin of the graph. This line from the origin to the curve has a gradient greater than any other line connecting the origin with a point on the curve, and therefore represents the greatest proportional net return. The amount of training at this point is thus the amount which will provide the greatest percentage return on output invested, and can be used if maximum return is management's objective. This might, of course, be considered to conflict with responsibilities to staff to train them more thoroughly. The issue of a firm's



objectives will be considered in more detail at the conclusion of this thesis (14.3.).

c) The point of maximum net benefit (M.N.B.).

This is the highest point achieved by the curve and always occurs at a higher amount of training than the point of M.R.I., providing the curve has positive values. Training to this point will maximise profit, by providing the best results. It can, therefore, be used by management to indicate up to what point it is worth training more, and at what point more training may cease to be cost-effective.

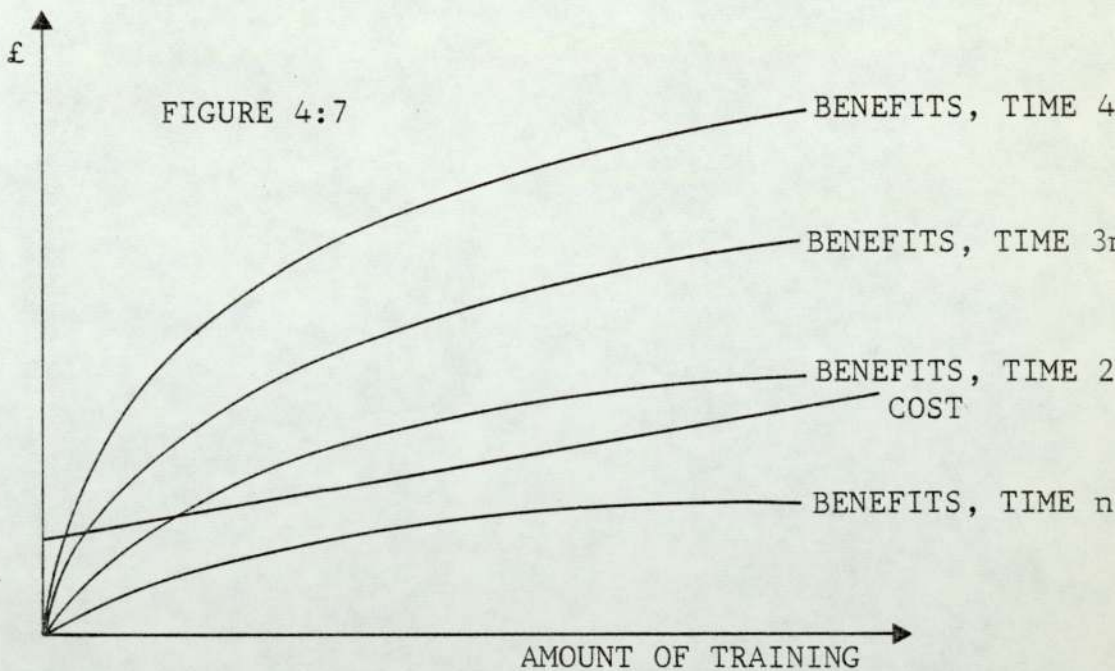
d) The maximum point of positive net benefit. As the typical net benefits curve decreases after it reaches its point of M.N.B. it eventually cuts the line of nil net benefits and subsequently assumes negative values. The maximum point of positive net benefit occurs where the curve has a value of nil, that is, where the results of training equal the cost. If the net benefits curve is continuously negative, however, this point clearly cannot exist. The point is likely to assume higher values of amount of training where the M.N.B. is greater. Although, at this point, the net benefits equal those at the minimum point of positive net benefit, the condition of

the training activity is, of course, different, as here employees have been trained, and probably overtrained, whereas at the minimum point their training is less than it should be for optimal results. At this maximum point, the staff are likely to be able to do the job intended, but the cost will have been excessive, and management's problems might in certain circumstances relate to retaining his employees.

- 4.3.5. One of the problems inherent in the model is that the costs and benefits which are to be compared need to be expressed in the same units; this was noted in 4.1.2. supra. Typically, however, the cost of an element of training is expressed in financial units such as pounds, while its benefits are expressed in financial units over a set period of time, e.g., pounds per annum. Where this is the case, it may be necessary to fix a time limit over which the benefits are to be considered. In some instances this limit will be arbitrary, while in others it may be related to the average period of retention in the relevant job of the staff being trained, or the time over which the effects of the training are expected to continue (the time, perhaps, before refresher training will be needed).



If such a time limit is set, a benefits curve can be drawn to represent the benefits in money over the particular period of time. Then a curve of net benefits can be drawn with the same properties as in the basic model. Further conclusions can be drawn if comparison is made between a number of such periods of time. Typically the cost curve will remain constant, while different benefit curves will be drawn for different time periods, with long periods having steeper initial gradients and reaching higher values than short periods (see figure 4:7). This method may establish limits of error in cases where there is

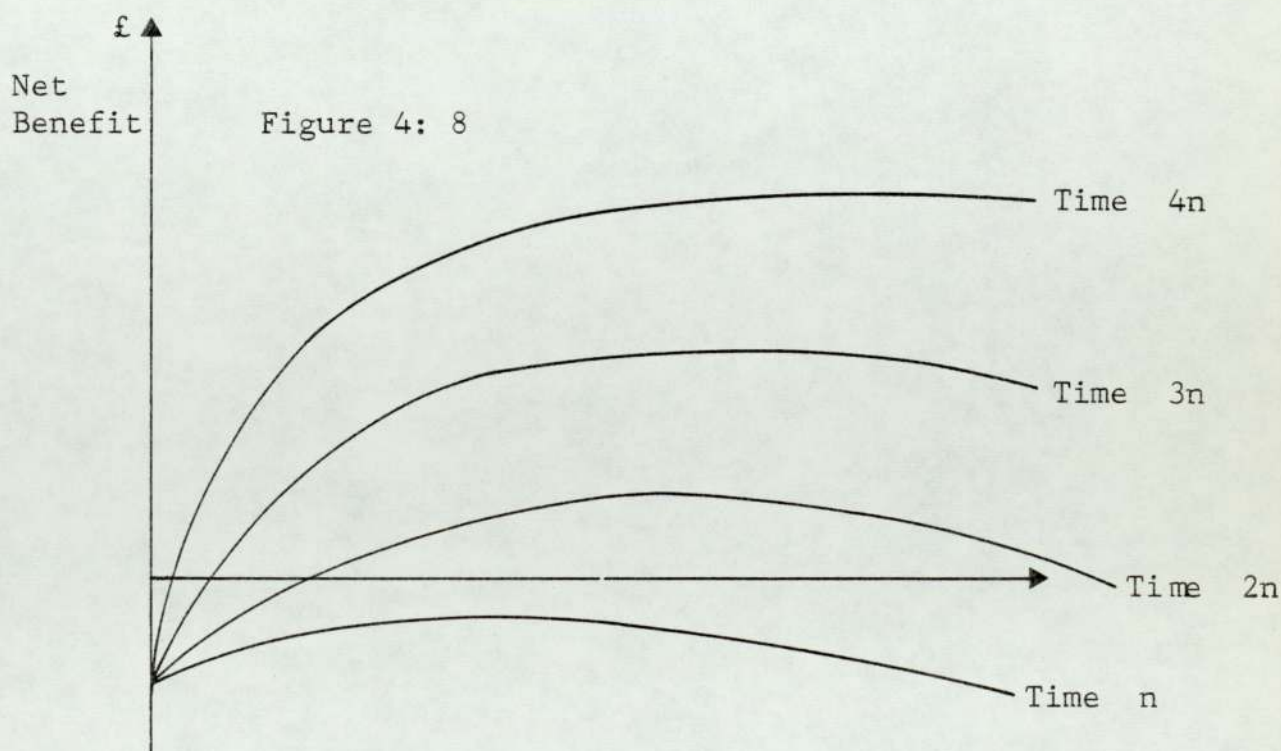


uncertainty about the correct period over which to measure benefits.

The model can then be extended into a description of net benefits by the established process of subtracting

the values of the cost curve from the various benefits curves in turn. The net benefits curves (see figure 4:8) all originate with a non-positive value, but rise with different gradients, and reach their M.N.B. at different points. Typically, as would be expected, the curves representing the longer periods of time have points of M.N.B. at the higher values.

This may have practical use in that, if the benefits over a certain period are measurable and can be extrapolated to make estimates of benefits over other periods, it will be possible to determine the minimum amount of time needed for the training to break even, and also how much training will be needed to achieve this. Beyond that, it may enable management to establish the relationship between the





amounts of training and the periods of return needed to maximise the gain from training.

4.3.6. It was hoped that this model would be shown to fit many, if not all, training situations; for it is a general model, with applications wherever costs and benefits, varying with the quantity of training, are compared to each other. It was thought possible that even different types of training might be compared to each other, so that optimum amounts of training in different circumstances could be contrasted. A training manager might then be in a better position to judge how much training to carry out, whether more would be justified in cost/benefit terms, or whether it would be more cost-effective to train less. It was clear that the information he would have would be subject to a degree of approximation (possibly a great degree), but, if successful, the model would permit him to take his decisions on the basis of the best information available, and would thus be of practical value. At the same time, it was clear that this hypothetical model might need a substantial amount of revision to be of practical use in evaluating training; and that it might need to be adapted in various ways if it was to be used in a range of different circumstances, and especially with different variables to describe the quantity of training.

#### 4.4. An Hypothesis for Cost/Benefit Evaluation

4.4.1. The three preceding parts of this chapter lead to the development of a conjectural scheme, or hypothesis, for practical evaluation, which itself is composed of three parts. The parts relate to costs, to benefits and to the comparison between them respectively.

In detail the scheme is as follows:

1. Training has a financial input in the form of costs which can be measured providing :
  - a) steps are taken to anticipate the expenditure heads under which these costs are likely to arise; and
  - b) adequate records are kept.
2. Training also has a financial output in the form of benefits (which may have a positive or negative value). These benefits consist of the money value of :
  - a) increases (or decreases) in output brought about by the participant's changed performance;
  - b) decreases (or increases) in errors brought about by the participant's changed performance;
  - c) the consequences of the participant's absence from his job (such as changed output, or the



effects of a replacement).

- d) the amount of slack resources created or used up before, during, or after training;
- e) productive output during training;
- f) differences in investment needed to achieve the same effect with alternative methods;
- g) changes in attractiveness of employment (evidenced by variations in such items as staff recruitment or retention).

Benefits are often more difficult to measure for the following reasons:

- a) An insufficiency in behavioural objectives or in information systems may prevent analysis of the nature of benefits to be measured.
  - b) The method of measurement will need to distinguish the results of training from the results of other factors, and the degree to which this will be possible will vary from one situation to another.
3. Costs and benefits can be compared as far as they are known, by a method which establishes the net benefits of different amounts of training. This method may be of practical value in assisting management decision-making by indicating (whether

approximately or exactly) what benefits are to be expected from different quantities of training.

4.4.2. This hypothesis conjectures that the model which has been developed is a practical description of training situations, subject to the various restraints dealt with in chapters 2 to 4. Since it is a general model, the hypothesis is of general nature also, in some ways at the furthest remove from the actual training that is taking place. The results from some of the preliminary studies, suggested that it would not be possible to test it in full, and that it was not feasible to treat the hypothesis as a set of variables, each of which could be isolated. Indeed, the number of variables is great, and it is very possible that there are more which have not been included in the model.

It was, therefore, decided to use a case study approach to test aspects of the hypothesis in different situations. The advantage of using a case study method was felt to be that it would allow hypotheses to be established for evaluation at a more specific level, closer to training itself. These hypotheses would, in turn, be based on the immediate hypotheses of the training. Thus it would be the hypothesis of training that 'specified training has results of a specified nature'; the hypothesis of



the specific evaluation would be that 'the cost/benefits of the training specified would be measurable in a specified manner'; and the general hypothesis of the evaluation would be that 'all methods of measuring cost/benefits of training could be expressed in terms of the model as specified in this chapter'.

- 4.4.3. The rest of this thesis will describe, first, how the model was further elaborated, in particular by the development of a costing system. It will then show how parts of it were tested by case studies, both from the data of others and from the research of the present writer; and will suggest how far the model's feasibility was established, together with determining what aspects of it remain in need of further research. Finally, it will be shown what conclusions can be drawn about the evaluation of training.

## A COSTING SYSTEM FOR DISTRIBUTIVE TRAINING

"The age of chivalry is gone. That of sophisters, economists, and calculators, has succeeded; and the glory of Europe is extinguished forever."

(Edmund Burke, *Reflections on the Revolution in France*)

*In this chapter the costs of training are described, and classified under fifteen expense heads, partly by reference to earlier writers. Requirements for records are considered. The feasibility of installing a costing system is then discussed, in the light of the inability of this research to establish a collaborative study in this field. Much of this chapter has been published as an article (Hart, 1977a), a copy of which is appended to this thesis).*

### 5.1. Classification of Costs

5.1.1. The first part of the hypothesis, then, is that costs can be measured so long as their expense heads are anticipated. A number of schemes have in fact, been proposed for the purpose of costing the training function of an organisation (Garbutt, 1969; Thomas, Moxham & Jones, 1969; Suessmuth, 1974; Woodward, 1975a). By and large, they attempt to generalise a procedure for all industries and economic activity. This is its benefits in terms of breadth of application; but it also has its shortcomings, as peculiar features that might characterise an industry such as distribution are



not taken into account, and thus a scheme may have to be significantly modified to meet the industry's particular problems. The lack of a costing system for distributive training has already been noted (4.1.2.). In addition, many of them tend to view the costing as a simple accounting procedure somewhat distinct from consideration of the results of the training function, and thus of training as a budgeted investment.

- 5.1.2. A requirement of a costing system is that it will enable the management of an organisation to bring under one head all the costs that are to be budgeted over the long term, and that it establishes the relationship of these to the short term costs of training, the costs of individual courses and programmes. Consistency is also an important virtue here, if any attempt is to be made at comparing different exercises in training. There is a need to distinguish between 'macro' and 'micro' approaches to costs because of the different significance taken on by various factors when viewed from these two perspectives. For example, the short term cost of employing an individual to participate in a programme can generally be said to be composed of his pay during the training period, plus perhaps the employer's contribution to his National

Insurance, and other minor costs. In the long term, however, other items such as holiday and sick pay, subsidised canteen meals, payments in kind and so on, need to be considered.

This difference between 'macro' and 'micro' can be demonstrated in other aspects of a system also.

Wentling and Lawson (1975) distinguish between the analysis of cost benefit and of cost effectiveness, the former referring to a single training programme, while the latter deals with a number of programmes. This leads them into considering general schemes for evaluating the activities of a training department, such as that of Cheek (1973). This is certainly a necessary aspect of the assessment of training and Cheek's system is the basis of one of the studies described in due course (see Chapter 12). Yet the two approaches do need to be accommodated into one. Some trainees undergo long-term training, and their long-term employment costs will need to be considered; to provide a system that is consistent for all training, therefore, the same aspects of short-term training, and of individual programmes, will have to be taken into account.

- 5.1.3. Since it is clear that the term 'training' refers to a complex range of activities, it is equally evident



that many of the terms to be used in a costing system must be defined. At very least, the context in which the system is set must be described.

Thus it is assumed in this argument that a firm contains a training function (which may or may not be set up as an actual department), which serves, by administration, advice and tuition, a number of client departments. The latter send participants for training by the firm's instructors, who may be in the participant's own or another department or in the training function (and they may have other duties as well); such training is called internal. The departments also send participants on courses run outside the firm, known as external. The period of time spent by a participant in training (including travelling, etc.) for which he is paid, and during which he would otherwise be active in his job, is his time off the job (even if the training takes place physically in the work environment).

The staff of the training function are divided into administrative staff (who do not conduct teaching in courses), instructional staff (who do), and long-term trainees (who are undergoing a long course of personal development, usually aimed at quick promotion). It is possible that the same individual

performs more than one of these roles (particularly administrative and instructional), just as it is possible that an individual in the training function may have duties elsewhere in addition; some kind of split in costs is clearly necessary in such cases.

The reader should bear the above in mind when considering the use of the underlined words and phrases in the argument.

- 5.1.4. According to established texts on distributive accounting (e.g., Hicks & Teasdale, 1970), training expenses are classified under two or three different heads. In particular, 'occupancy expenses' include the costs involved in the rent, depreciation and upkeep of buildings, including the training rooms and offices, and in providing power and utilities for these buildings. Under the heading of 'administration expenses' are salaries and wages, the provision of equipment and materials, and a number of other items; it is a matter of local accounting convention whether the training function is included under this head, or whether a separate heading of 'training expenses' is set up to cover the people fully employed here.

Whatever the arguments for and against separating



expenses in this manner, if the total cost of any function, such as training, is to be isolated, data will have to be extracted from various sources and grouped together. The major classification of these costs is likely to be roughly as follows (although there will inevitably be differences from one organisation to another); each expense group will be described in turn.

5.1.5. (1) Buildings and Land

- a) depreciation.
- b) rent.
- c) rates, water, insurance, etc.
- d) electricity, gas, oil, etc.
- e) maintenance.

This expense group is isolated by Garbutt as "building costs and services", although he accounts for depreciation elsewhere. Woodward treats them under the general heading of "capital costs", while Thomas et al. divide them amongst three different classes: "servicing and co-ordinating the training function", "fixed training capital", and "giving instruction". As far as Suessmuth is concerned, this whole group, in common with most of the 'macro' costs not applicable to individual programmes, seems to be included in the term "overhead".

Garbutt's system is preferred here, but with the difference that depreciation is included with other building costs. Depreciation should normally be calculated according to the established accounting procedure of the organisation. In some cases, too, resources will be shared between the training function and other departments. When this occurs costs should clearly be shared; a proportion may have to be derived from an estimate of relative usage, perhaps on a square-footage basis, or sometimes by a mere guess.

## (2) Capital Equipment

- a) depreciation of training equipment (e.g. fork-lift trucks, projectors, cash registers).
- b) depreciation of administrative equipment (e.g. typewriters, photocopiers).
- c) maintenance of training equipment.
- d) maintenance of administrative equipment.

Capital equipment is treated in most of the other systems mentioned in largely the same way as buildings and land. The same principles, of course, apply to the two groups as far as depreciation and sharing between departments are concerned, although the proportions shared are likely to depend on the



length of time for which the equipment is used. Typically, the formula for calculating the share will be:

$$\frac{\text{Number of days' use in training}}{\text{Total number of days in use}} \times \text{Amount written off,}$$

assuming of course that the period under consideration is the same for each statistic. If the equipment is not in constant use, a log will have to be kept, or else an estimate made of the total amount of use. If it is in constant use, the total number or days will involve every day when one of the departments using it is operational, i.e. Sundays and 'statutory' holidays will normally be excluded, while in many distributive firms, Saturday usage may be normal. The details clearly depend on the particular circumstances of the business, but it is important to note that the depreciation must be written off during times of business and use of the asset, and not while it is idle. The details also depend on the type and length of usage; there may be some equipment where the cost needs to be allocated by the hour (a photocopier, perhaps), although very often an organisation will have a special allocation system for costs between many departments in such a case.

On the subject of proportioning costs between departments, it may be queried how far the detail of

recharges and shares should go, both over depreciation and other costs. There can be no exact rule in this case, other than the general principle that the greater the detail, the more accurate the information is likely to be. If the point is reached when monitoring and calculating costs become too time-consuming in comparison with the size of the costs themselves, the procedure has probably ceased to justify itself. This is a problem in all training evaluation, but it is also a problem of accounting in general. Very often it is mitigated in practice by arranging expense groups so that a number of comparatively small items (electricity charges, etc.) are collected into one larger centre which is then split between departments.

### (3) D.I.T.B. Levy

Training board levies are often ignored by those costing training (of course, if the writer is not concerned with Britain, they do not apply). However, they must be considered as a cost of training function - either of "utilising" or of "servicing and co-ordinating" it, in Thomas et al.'s terms. Garbutt does mention this cost, but not in his main classification; instead he gives it extensive discussion in a separate chapter. His point, however, is well made, that training board grants should also



be considered where appropriate, among the benefits of training. This may have been important in the past. Under the levy remission scheme, however, it will normally be the levy alone that needs consideration - unless a particular element of training attracts a special grant, or can be shown (which is unlikely) to increase the amount of levy remitted.

(4) Materials and Equipment

- a) stationery.
- b) telephone and postage.
- c) training aids.
- d) hire of equipment (projectors, etc.).
- e) software (services of consultants, etc. -  
but see (13) below).

This group of expenses is treated in a variety of ways in other costing systems. Woodward, for instance, considers training aids to be a "capital cost", while the rest are described as "training costs" (in common with the next three expense groups). Perhaps this is a heterogeneous group, although it does make sense to class these items together, since they are all expenses of administering the training function. The comments made above about sharing expenses between departments may well apply here also.

(5) Staff Sundry Expenses

In the systems of Garbutt and Suessmuth, these are grouped under a number of headings depending on the type of expense. Thomas et al. consider them as costs of "initiating" or "servicing and co-ordinating" training.

(6) Administrative Staff

- a) salaries and wages.
- b) national insurance, graduated pensions, etc.
- c) 'perks'.
- d) pension scheme.

Again Thomas et al. separate these between initiating and servicing the function. Suessmuth, on the other hand, has an expense group called "administration", though it appears to include a number of other items (such as some of those considered under "materials and equipment" above).

(7) Instructional Staff

- a) salaries and wages.
- b) national insurance, graduated pensions, etc.
- c) 'perks'.
- d) pension scheme.

Two systems, rightly, make a distinction between the



instructional and administrative staff. Thomas et al. group "the cost of giving instruction" under one head, and Suessmuth describes "instructor costs". This distinction is followed here, even though some staff may divide their time between the two. Garbutt, on the other hand, lumps together "Personnel costs" as two groups, one for pay and the other for employment overheads. It is felt that the former system is preferable as it distinguishes between such costs on the more important criterion of the purpose for which the cost is incurred. In addition, the time of instructional staff is often attributable to a specific training programme, whereas the administration may be, or may not.

(8) Long-Term Trainees

- a) salaries and wages.
- b) national insurance, graduated pensions, etc.
- c) 'perks'.
- d) pension scheme.
- e) sundry expenses.

This is an item of cost which is often ignored in other systems. It is nonetheless important since many distributive firms employ trainees for promotion into management, and bear the cost in their central training function. Thomas et al. refer to the

"cost of wages of trainees", though they use the word "trainee" in the sense in which 'participant' is used in this thesis. In distribution, 'trainee' is more current as the term for young staff undergoing a long course of personal development, usually aimed at quick promotion.

5.1.6. Most of the above costs are of a 'macro' or 'cost-effectiveness' type, although some of them can no doubt be allocated to particular training programmes in certain cases. Other expenditure on training is at a more specific 'micro' or 'cost benefit' level, and this must now be taken into account. The first item here is:

(9) Short-Term Participants

- a) salaries and wages.
- b) national insurance, graduated pensions, etc.
- c) 'perks'.
- d) pension scheme.

In some studies of training costs it would appear that this is the only significant one considered. It is certainly important, as will be seen from its influence on the relationship between the costs of the training function and the client department; but it would be wrong to consider it on its own. It is,



of course, included in most of the other systems studied. Thomas et al., as has been noted, class "the cost of the wages of trainees" in one group, (although they would deduct productive output, whereas it has been argued, in 4.2.6. supra., that this is more properly a benefit of training). Suessmuth has two expense groups called "salary" and "benefits", and Garbutt presumably includes this item in his two groups of "personnel" costs". In the case of Woodward's classification, the position of participants' pay is not clear; though he may feel it is adequately dealt with under "covering" or "off-the-job" costs, he does not mention it specifically.

(10) Instructors 'hired' from other departments

- a) salaries and wages.
- b) national insurance, graduated pensions, etc.
- c) 'perks'.
- d) pension scheme.

It is not evident that this expense is considered in many costing systems, or that firms often concern themselves with the value of instructors whom they transfer from their normal jobs to conduct training. However, if the total cost of training is to be assessed, this is a necessary consideration, as otherwise training would appear cheaper in these

circumstances than when carried out by members of the training function or by external consultants.

Calculations for these two expense groups are likely to involve both taking a proportion of total expenditure and recharging from another department's accounts. The proportion to be taken should be:

$$\frac{\text{Number of days (or hours, etc.) off the job}}{\text{Total number of days (hours, etc.) worked}} \text{ per annum.}$$

By deducting holidays and, where possible, an estimate of days absent through sickness, etc., a proportion of the costs of providing these working conditions will be taken into account. Where employees work for only part of a longer operating week (as happens frequently in retailing, though less in mail order), then only the amount worked should be included in the calculation of the total number of days per annum (although equipment, of course, might still be 'in use' for the longer period).

The actual mechanism for recharging the proportion of participants' employment costs (9) to training is largely a matter of taste. As will be seen (5.1.7. and 5.2.1. infra), the total costs of training will in the end be recharged out to the client departments, and so it might seem sensible to make participants'



employment an expense group within each department, to which recharges would be made from the departmental staff employment expense groups. This would mean, however, that costs would be dispersed among the departments, and it would frustrate the aim of collecting all training expenses together to allow total costs to be calculated. Perhaps a better alternative is to charge the employment costs of participants to the training function, so that cumulative estimates of training expenditure can be made; even though it is known that these costs will be directly recharged back to each line department.

A similar principle applies to certain other costs which are likely to be specific to courses in the short term:

(11) Participants' sundry expenses

This item will consist mainly of travel, food, accommodation, and a few minor expenses. Often these are not distinguished in costing systems from the expenses of training staff (5); but, since the latter may be spread over a number of training programmes, it is more appropriate to treat the two as different expense groups.

### (12) External Course Fees

Though listed separately by Garbutt, and grouped as "tuition" by Suessmuth under four sub-headings, these fees are, in the systems of Woodward and of Thomas et al., part of the large expense groups, "fixed training costs" and "giving instruction" respectively. There is unlikely to be any question here, or in (11), of sharing proportions of costs over time or between departments, and the costs can be held in the training function's accounts pending a recharge to the client department.

On the other hand, in the case of

### (13) Consultants' fees for development of training programmes

it may well be appropriate to allocate the cost over the number of courses of the programme which it is anticipated holding. Any value remaining at the end of an accounting period will have to be considered as a "software asset" and treated similarly to other assets that have been mentioned. This may cause some problems if the organisation's accounting practice is not attuned to such a concept, but circumstances can be envisaged where it may be significant enough to justify a change in accounting procedure. Attempts have been made at designing systems in which the



trained manpower is considered a depreciable asset (see e.g. Stainer, 1971, ch.11; G. Baker, 1974; and Savich & Ehrenreich, 1976), although the unknown factors involved are likely to make this a rather dangerous quest. Yet the concept of training itself as an asset can be of use, and this is a good example.

- 5.1.7. It is worth insisting once again that it is unlikely that a list of expense groups will be exhaustive, or that every group will be relevant in every case. The types of cost given above are, hopefully, the main ones, but circumstances may cause additional ones, or sub-divisions, to be appropriate. One further cost should definitely be added, and that is:

(14) Training of training staff

This again, is part of Thomas et al.'s "cost of providing instruction" (as are consultants' fees (13)), while for Woodward it is a "fixed training" cost. It is an expense group which should be present in every department's accounts in the form of "training of staff", and it will be seen to be the group receiving recharges from the training function for the latter's services. In the same way, this training function account will receive recharges from elsewhere. In fact, this account can

be conveniently divided into two, depending on whether the staff are being trained generally to improve their job performance, or specifically to permit the development, administration or teaching of a particular training course within the organisation. Since, in the latter case, the method of recharging from the centre will be slightly different, it is worth putting training for this purpose under the expense group:

(15) Training of training staff for specific programmes

The method of recharging to groups (14) and (15) is the same for both, as follows. A proportion of DITB levy (3) will be attributed in every case, and for external courses there will be specific recharges from participants' expenses (11) and external course fees (12). For internal courses, a long term share from expense groups (1) to (5) should be recharged on the basis of man-days trained (see 5.2.1. infra), together with a recharge from instructor 'hired' (10) and consultants' fees (13) if appropriate. There should in addition be a recharge for the participant's time spent on training, taken from either expense group (6) or (7) or (8), depending on the classification of the participant (technically this should be a recharge to expense group (9) for



short-term participants, and thence to (14) or (15), but this becomes unnecessarily complex).

The point of this operation is to isolate all the costs of training members of the training function, so that these can be compared with the similar costs in other departments. It is true that all these costs are eventually to be recharged to the functional departments, and that for that purpose expense groups (14) and (15) are not needed; but it is their comparative use that might make it worthwhile to establish them as a means of monitoring the amount spent on training within the training function.

5.1.8. In summary, then, a provisional list of expense groups can be given, for modification according to the conditions of individual firms. It is as follows:

- |                       |  |
|-----------------------|--|
| 1) Building and land: | a) depreciation.   |
|                       | b) rent.   |
|                       | c) rates, water, insurance, etc.   |
|                       | d) electricity, gas, oil, etc.   |
|                       | e) maintenance.  |
| 2) Capital equipment: | a) depreciation of training equipment (e.g. projectors, fork-lift trucks, cash registers). |

- a) depreciation of administrative equipment (e.g. typewriters, photocopiers).
  - c) maintenance of training equipment.
  - d) maintenance of administrative equipment.
  
- 3) D.I.T.B. levy
  
- 4) Materials and equipment:
  - a) stationery.
  - b) telephone and postage.
  - c) training aids.
  - d) hire of equipment (projectors etc.).
  - e) software (services of consultants etc. - but see (13) below).
  
- 5) Staff sundry expenses
  
- 6) Administrative staff:
  - a) salaries and wages.
  - b) national insurance, graduated pensions etc.
  - c) 'perks'.
  - d) pension scheme.
  
- 7) Instructional staff:
  - a) salaries and wages.
  - b) national insurance, graduated pensions etc.
  - c) 'perks'.
  - d) pension scheme.
  
- 8) Long-term trainees:
  - a) salaries and wages.
  - b) national insurance, graduated pensions, etc.
  - c) 'perks'.
  - d) pension scheme.
  - e) sundry expenses.



- |   |  |
|---|--|
| 9) Short-term participants:                     | a) salaries and wages.<br>b) national insurance, graduated pensions, etc.<br>c) 'perks'.<br>d) pension scheme. |
| 10) Instructors 'hired' from other departments: | a) salaries and wages.<br>b) national insurance, graduated pensions, etc.<br>c) 'perks'.<br>d) pension scheme. |
- 11) Participants' sundry expenses
- 12) External course fees
- 13) Consultants' fees for development of training programmes
- 14) Training of training staff
- 15) Training of training staff for specific programmes

## 5.2. Records for Costing Training

5.2.1. It was noted (see 4.1.6. supra.) that, in addition to the exclusion of non-accounting costs and to the classification of accounting costs (both of which have now been carried out), a costing system would need adequate records. As a general principle it can be said that a time scale for a study must first be agreed, and that then the information can be collected on the depreciation and the rent of buildings (1 a-b), on depreciation of capital equipment (2 a-b) and on the DITB levy (3). These will normally be well estimated in advance. In

addition, details of staff conditions, pay, etc. can be obtained, so that the cost of administrative staff (6), instructional staff (7), long-term trainees (8) and (at least in part) short-term participants (9) and instructors from other departments (10), can be predicted, and adjusted during the period as necessary.

As they occur during the period, a record is kept of services to buildings (1 c-e), capital equipment (2 c-d), materials and equipment (4), staff expenses (5), trainees expenses (11), external course fees (12) and consultants' fees (13). This record also monitors the time involved in training, so that recharges can be made as they arise, for short-term participants (9), instructors from other departments (10), and training of training staff either generally (14) or for specific programmes (15).

At the end of the period, those costs which have arisen from specific programmes (7, 9, 10, 12, 13, 15; and possibly parts of 4 and 5) are finally charged to the trainees' departments. The other costs are split according to the number of man-days trained. This is the total number of days spent by each trainee in training during the course of the period, and each client department should be charged for internal



courses with these costs according to the formula:

$$\frac{\text{Number of man-days trained in department}}{\text{Number of man-days trained in organisation}} \times \text{total costs}$$

The expense group in each client department to receive these recharges should be called "training expenses", or something similar. Its existence will allow comparison between the departments of the amount spent on training, and will also allow the costs of training to be compared with the results, if steps have been taken to measure them. The precise design of these systems will need collaboration between the individuals concerned, and will depend on the accounting systems already in operation.

- 5.2.2. It is because the details of any specific costing system must relate to the specific conditions of each firm that further development is needed before the value of this present one can be assessed (see 15.1.6.). No doubt, if this was done, a number of modifications would become necessary in addition to the greater detail demanded.

It was the intention of this research to carry out such a study, but in fact this did not prove possible. An attempt was made in a mail order company in the North West of England, but was taken

no further than the stage of preliminary discussions. The reason for this was that the firm found itself in financial difficulties and an embargo was placed on new training developments. This was considered unfortunate, since the training manager felt that information on costs and budgetary control of the training function were both lamentably lacking. A second attempt was then made in another mail order company, this one in the Midlands, and the same firm where the priorities scheme (see chapter 12) was tested. This, however, was also stopped at the discussion stage; first because of the imminent computerisation of the firm's accounts, and then because changes in the objectives of the training function prevented the necessary time or effort being devoted to the exercise.

Discussions are still continuing on the subject of testing the system, and it will be submitted as part of a report on the principle of costing training (see 15.2.2.). However, in the research described in chapters 7 to 12, it has been possible only to record costs in the form and to the extent available from the collaborating firms. In some cases, the details have been discussed with training management, in others with accountants. In no two cases were identical items of cost included; and some expense



groups (such as buildings and land (1)) were hardly ever included in the calculation.

5.2.3. The conclusion must be, therefore, that while it is in principle possible to cost the total training expense of a distributive firm, it has not been demonstrated that this is at present feasible. One condition which will be necessary before such a demonstration could take place appears to be that firms should be willing to install a costing system, despite the potentially frightening nature of the results of such an exercise. It is clear that some trainers hesitate to assess how much training costs because they fear the reaction of their superiors to a huge estimate of expenses (Allen, 1963; Johnson, 1976). A second condition is that resources are available to test the system, in terms of management and clerical time. It is not evident that either of these conditions exists at present, and it is possible that attitudes will need to be modified before they can. If senior management are prepared to treat training as an investment, as an expense that brings benefits, then the trainers themselves may become less timid about assessing the outlay involved, which could then be related to results. This situation does not, however, yet appear to have arisen.

## COST/BENEFIT STUDIES IN DISTRIBUTIVE TRAINING

"You pay more for your schooling than your learning is worth."  
(Seventeenth Century proverb from J Clarke, *Proverbia Anglo-Latina*).

*In this chapter, nine case studies are described, of research into the cost/benefits of distributive training. These include management training in a wholesale distributor, supermarket checkout operation, retail cosmetics sales, warehouse handling and agency clerks in mail order, secretarial training, sales training in multiple clothes and shoe stores, and a picking-and-packing operation in a wholesale warehouse. In each case, an analysis is made of the study in terms of the model for comparing costs and benefits. The model appears to be a useful approach to the issue of evaluation, although it is clear that, in most cases studies, insufficient information has been collected to permit full use of the model.*

### 6.1 Description of Previous Studies

6.1.1. As part of the research, an investigation was made into the type of studies that had been attempted hitherto in assessing the cost/benefits of distributive training. This was carried on as a literature survey throughout the research, together with interviews with a range of employers in the industry. In addition, an article was published in Retail and Distribution Management (Hart, 1976), on which part of this chapter is based, discussing work in the field of evaluating distributive training; a copy of the article is appended to this



thesis. As a footnote to this article, readers were invited to communicate with the author about any relevant studies that might be known to them.

6.1.2. It is clear that the amount of work done is small. Some fifteen 'studies' were noted, of which six were carried out as part of the present research. Of the remaining nine, two were published, two were available as dissertations for research degrees, and five were related by word of mouth. In some cases, particularly with these last five, the amount of detail given was small, the data were not often specific, and the evidence gave the impression of being largely anecdotal. It is possible that more examples could have been obtained if a more thorough survey had been carried out, say, by approaching a large number of the D.I.T.B.'s levy payers in writing. However, the value of the likely response was felt to be insufficiently high to justify such an effort. The footnote in the article mentioned in 6.1.1. did not elicit any response at all.

Training management were often surprised by what had taken place, even in their own companies, that could be described as 'evaluation'. Assessing training, and trying to improve it, is such a regular activity for them (at least in a very subjective manner), that they often do not think of it as evaluation. Yet, where it

is done as objectively as possible, with some attempt to measure results, it can be so described. The reason why the few examples collected by word of mouth tended to be so short of detail, is that such measurement does not generally take place, so that the 'evaluation' tends to be uninformed.

- 6.1.3. It is worthwhile describing in general terms the cost/benefit studies that have been discovered both to place the present research in context, and also to establish whether the model developed in chapter 4 appears to correspond to real conditions in distribution. The earliest published work is found in an article by Hillman (1962) from the U.S.A. He reports on a management training programme, on subjects in industrial relations and general leadership, carried out in an American "distributor" (this appears to be a wholesale company) with more than 150 branches. The programme aimed to achieve a number of improvements in performance, including a reduction in accident rate, in absenteeism and particularly in staff turnover. Striking changes were noted, by comparing figures for the year following the training with the average performance over the previous five years. Thus accidents were reduced by some 50% and staff turnover was 30% less. In addition, reactions and learning were monitored.

Hillman also notes a more controversial measure of



training 'value', in that fewer requests were made for trade union representation after the training. Lack of desire for union membership might have been considered a reasonable measure of management capability in America fifteen years ago, but perhaps such an attitude is out of date in contemporary Europe, and may bring about the results it seeks to avoid. However, there are doubtless some firms in distribution which continue to use such a criterion, and presumably it is right that the measurements of efficiency should be determined by each organisation.

The details given by Hillman are not expressed in financial terms, but as percentage improvements against certain indices. They are thus more at the level of job performance than of "ultimate" results, or are "qualitative" and measured (to use Woodward's terms, as in 3.5.2. supra) rather than "quantitative" and valued. Presumably, in the case of staff turnover, which was the employer's main problem, a percentage reduction could be converted to an estimate of financial saving, by calculating the cost of each resignation and recruitment. However, one reservation is admitted by Hillman which applies to all these results; no controls were used to distinguish what part the training played in the improvement, and it has been seen (3.5.2.) that these are generally needed (though often not obtained) for a rigorous study.

6.1.4. The other published study took place in Britain.

Butterworth (1969) reports how a team of researchers under his leadership were charged with improving the efficiency of the check-out operation in a supermarket in the north of England. Part of the work concerned the optimum length of queues, the number of check-outs to be in use at different times of the week, and the legibility of price marking; but it also involved assessing the speed and accuracy of the operators, and establishing what improvements were possible.

The main training technique used was practice at check-out machines, in a training room off-the-job. This was done with both priced cards and baskets of goods. At first, the number of mistakes made by experienced cashiers was so large that they were themselves worried, and sought further practice. By spending a quarter of an hour each day in the training room, both time and errors were reduced. After three weeks, the cashiers were compared with a control group - although Butterworth feels they may have been better operators than those trained, rather than a group selected to be strictly equivalent. The control group's errors were three times as great as the mistakes of those trained, and their average time more than a third longer. Had the research team wished to put a value on these items, no doubt they could have done so. They were taken as an indication



that the training was valuable, and this is of some significance for the D.I.T.B., who have stressed the use of short training periods off-the-job as a worthwhile technique. In fact, the D.I.T.B. have generally considered half an hour to be the minimum time a session should last, and very often such training is of a different nature from the type described by Butterworth. Nonetheless there is at least an indication here that short training periods can be of value; and, additionally, in this case the researchers were able to analyse the most common causes of errors.

- 6.1.5. To improve the marketing of their products, an English cosmetics company asked their sales assistants to follow a programmed package, consisting of a booklet and samples of make-up. The package was intended to display the cosmetics at their best, by improving the assistants' own appearance and their product knowledge. The advantages of this method of training over others were measured by noting the time spent by instructors when the participants referred to them (this was very small). The financial benefits were assessed by comparing the stock used up (which related to sales) by the participants, before and after training, with the stock used by a control group of untrained assistants. In addition, photographs were taken of the assistants before and after training, and independent judges were able to distinguish the 'after' photographs with almost

total success!

- 6.1.6. A mail order company in the north of England considered its training in physical handling in the warehouse. Its order assemblers were trained on the job, taking an average of three weeks until the job was adequately known, and a further three weeks for experienced worker standard to be reached. After formalising the training programme, using some off-the-job sessions, and involving a part-time instructor, trainees achieved E.W.S. after an average of two weeks.

The approach in use here reduces the risk of contamination by external factors by addressing the question of value from the angle of reduced costs rather than increased benefits. The eventual performance is the same, but it is achieved more cheaply. However, the possibility of contamination is not to be ignored altogether; a change in quality of recruits might bring about the same results, for example.

- 6.1.7. Another mail order company, also in the north of England, analysed its training system for agency clerks. The clerk's job is a major one, as it involves the contact between the company and their agents in the field. These agents form the major workforce for the catalogue-sales mail order companies; according to one estimate (The Observer, 1977), they total some four million over



all companies. Being self-employed, they do not normally receive training, and consequently it is with the activities of the agency clerks that the companies have their closest control over sales problems. In the firm in question, the training analyst found that too much time was devoted to some simple routines, while certain rare contingencies were dealt with in great detail. By shortening the time spent on the simple routines, and by arranging for the rarest occurrences to be dealt with by management when they arose, a new course was designed. On this new course, the average time taken by participants to reach experienced worker standard was  $4\frac{1}{2}$  weeks, as against  $6\frac{1}{2}$  weeks originally.

Here again it is the change in the cost that is being measured, rather than any difference in results. In addition, it provides an example of training management using information provided by the study, to establish where the training appeared to have most effect.

- 6.1.8. Secretaries at the head office of a large distributive company in the north-west of England participated in a training course at a local college. The company was able to record a striking reduction in turnover amongst these employees after the training.

This is perhaps the example where the details are most

lacking. No figures were recorded, so that the training officer's 'measurement' was totally subjective. On this occasion, such a subjective assessment was considered adequate to his needs; and, indeed, more detailed records might have provided little further information that would have contributed to a decision on training. That this firm appreciated the need for more detailed records when they were required is demonstrated by another activity which touches on the field under discussion, an "overhead analysis". This involved setting a target for cost reduction, and analysing the amount of time and money spent on each of the various activities with which the head office training department was involved. It did not prove possible to reduce every activity by the target set, at 40%, to be intentionally high; but the exercise provided an impetus for reducing the effort put into training where its justification was questionable.

- 6.1.9. Of the two studies described in dissertations for research degrees, the earlier is from Crossley (1969). She describes an experiment to determine whether the effectiveness of sales staff training improved when carried out by management coached in instructional techniques. The tests were carried out in a multiple



retailing women's clothes. At least part of the study provided positive results, although no certain conclusions were drawn, because the company's promotional activities interfered with sales performance and because it did not prove possible to establish a control group that was satisfactorily matched with those trained. Crossley concludes that the results suggest the influence of training on job performance, but do not prove it.

It is in studies such as this that the problems of contamination of results by external factors become most apparent. At a critical point in Crossley's research, the firm decided to reduce a number of prices and to promote old stock. Perhaps it is inevitable that immediate business concerns will take precedence over the demands of research, the value of which is generally uncertain - especially if the research is not being controlled from a level of the company senior enough to provide representation for its interests when policy changes are made.

6.1.10. Similar difficulties were encountered in the study of branch level training conducted by Lewis and Steed (1977) for the D.I.T.B., the second of the dissertation studies. The research involved a number of exercises, including an evaluation of training in selling skills.

Assistants in a multiple shoe chain were to be trained by the use of manuals designed by the research team. Much responsibility for the training was placed on branch managers, whose interest varied. Lewis and Steed conclude that the training had a beneficial effect, providing appropriate conditions pertained in the branch. Inexperienced staff, interested in learning, with a manager enthusiastic about training, provided the best return from training, even if the manager did not put great effort into the activity.

These results were collected by analysing changes in sales in the ten branches where training was conducted, and comparing them with results in a control group. The allocation of shops to each group was carried out by company management, and the researchers state they "were never informed of the basis on which it was done." Such problems as this must restrict the general applicability of results, although, as their major conclusions were rather subjective ones relating to attitudes in each branch, it can well be argued that a search for such general application would not be appropriate. It seems from this, as from many of these studies in distributive training, that perfect experimental conditions are seldom feasible. Elsewhere in Lewis and Steed's work, they report on a study carried



out by their colleagues, Pritchard and Sienko (1977), in a multiple confectioner and tobacconist, where the research design broke down completely, because the assistance looked for from line management was not always forthcoming, and the results were further confused by changes in the company's pricing policy.

6.1.11. A final exercise in cost/benefit evaluation has been reported within the D.I.T.B. This concerned pickers and packers in a wholesale warehouse, for whom an incentive scheme was drawn up after work measurement. It was decided to train staff in the working of this scheme, and so it was taught to management, to staff representatives and then to all employees affected. After the scheme had been introduced, the operating rate increased by about 50%, which improved the throughput of orders, maximised the loads on vehicles, allowed vehicles to turn round quicker, and permitted the staff of pickers and packers to be gradually reduced by natural wastage to 90% of their original level.

In this instance, the effects of training are interlocked with the effects of a new system. Indeed, it may be said that one would have had little benefit without the other. It is not a practical proposition to test such an

assertion by introducing a new system of this type without informing the staff involved, and so it is unlikely that the results of the training alone could ever be measured under controlled conditions. It might, in principle, be possible to compare the total effect of introducing the system (of which training is part) with the effect of maintaining the status quo in, perhaps, another warehouse; although in that case difficulties may arise in ensuring that similar operations are being compared.

## 6.2 Application of the Cost/Benefits Model to Previous Studies

6.2.1. Since it is conjectured that all studies in the cost/benefits of training can be analysed in terms of the model described in chapter 4, it is appropriate to investigate how far this model can be applied to the examples listed in 6.1. An immediate difficulty in this connexion arises from the sparseness of the data about these case studies. That does not, though, prevent the attempt to establish how compatible each example might be with the model, even accepting that the comparison may not make a numerical statement of the quantities involved. If more data were available, it would be likely that the conclusions of this section would be rather more detailed.



6.2.2. In the case of the Hillman study, the major benefit reported was a reduction in staff turnover. It has been suggested (6.1.3. supra) that this could be converted into a financial result by calculating the savings on recruitment costs and on resignations: this would have to be done for a determined period of time. This gives a point on a graph, marked (1), as in figure 6:1, which relates benefits to the length of training carried out. In addition to this an investigation into the costs of training might have given an indication of the total cost, and of how this would have varied had the course

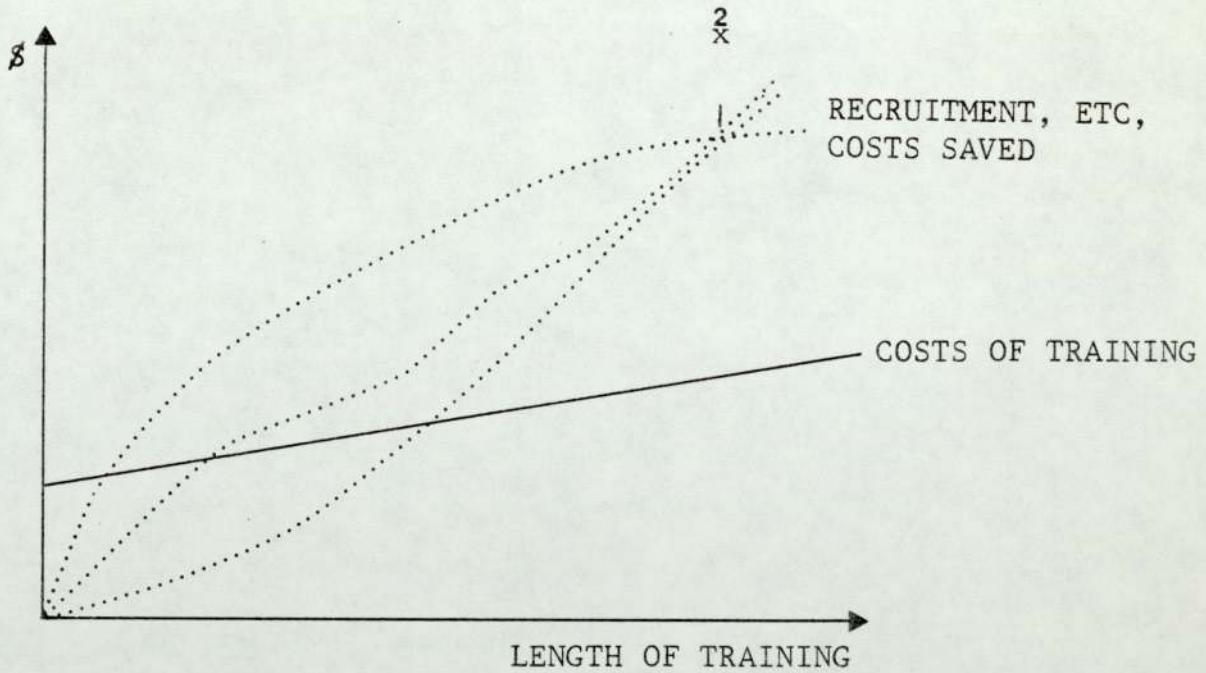


FIGURE 6:1

been longer or shorter; this is also shown in the figure. It would not have been possible, under the conditions as described, to establish at what point benefits exceeded costs by the greatest amount, because the exercise did not try to establish what gains would have arisen from training for longer or shorter periods. However, it seems clear that, had no training taken place, there would have been no savings; and so lines may be drawn to connect the origin of the graph with point (1). These are the dotted lines in the figure, but nothing is known about which of them would reflect the circumstances best.

If the staff turnover of the participants themselves improved (and it is not clear from Hillman's article whether that happened) it is possible that the period of time over which the benefits accrued could be increased, and this might allow the estimate of benefits to be raised from (1) to (2). Where management training is concerned, the benefits may well be derived from changes at levels of status below that of the participants, as in this case. However, for the estimate of benefits to be properly attributed to training, some type of control group should really be available for comparison.



6.2.3. In Butterworth's case study, it is reported that graphs were kept of the results of the quarter-hour sessions, indicating over the course of time how the cashiers' speed and accuracy were improving. No examples of these were published, but it is not difficult to see that they might have taken the form of the curve in figure 6:2. This is a decreasing curve, because the objective of the training was to reduce time and errors. It could be adapted into an increasing curve by expressing these reductions in terms of the value of errors avoided or (in the case of the time reduction) of items processed in a given

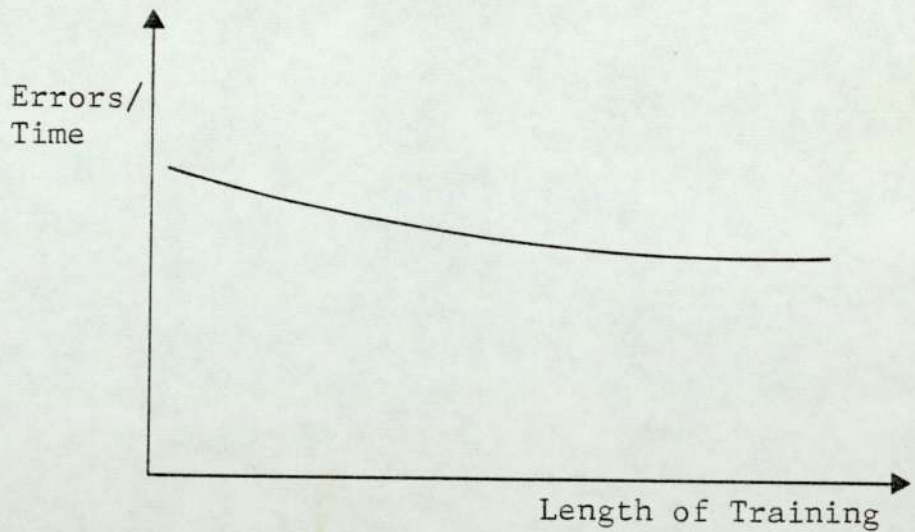


FIGURE 6:2

period of time. In figure 6:3, lines representing

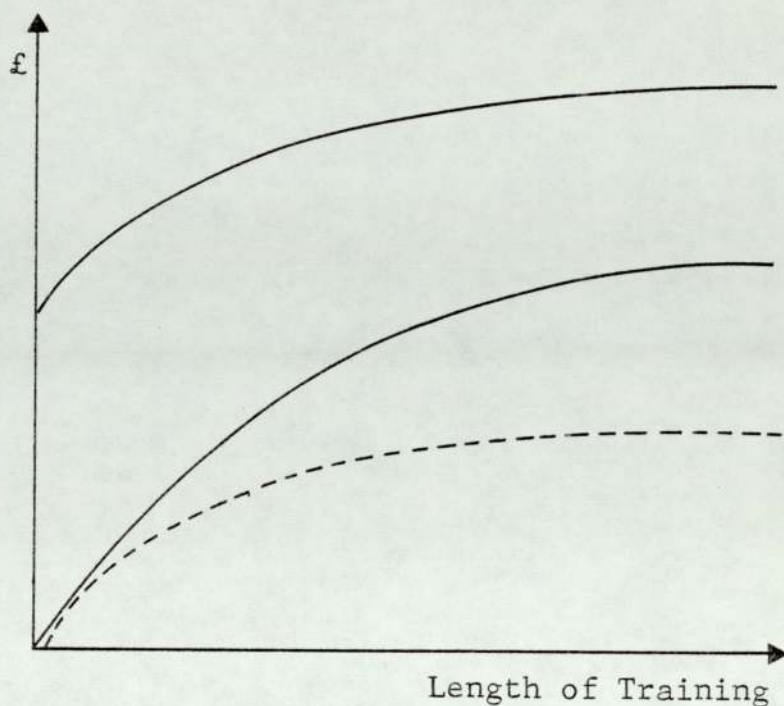


FIGURE 6:3

these two are given. It will be noted that the curve of items per hour does not commence at the origin of the graph. This is because the participants started with a certain competence in the terms of this criterion, and thus the improvement commences from this level of competence. The actual benefits deriving from training could be expressed by subtracting this original level from the curve, as in the dotted line in the figure. Butterworth does not record any attempt to measure the costs of training; this might be difficult, as it seems to have been carried out by a team of research students, whose time is hard to cost, and was associated with research into other aspects of the



job's efficiency. But it is not difficult to imagine that, under normal operating conditions, with a firm's training function conducting the exercise, an estimate of costs could be included in the figure.

6.2.4. As far as the example of the cosmetics retailer is concerned, there was again no estimate made, as far as is known, about the cost. However, it is likely that, where a programmed package is concerned, the cost of initiating training will be high, and that then any number of participants can be trained for a comparatively small marginal cost, consisting largely of the value of the participants' own time. These would constitute the fixed and variable costs, respectively, where the quantity of training was expressed in terms of the numbers trained (see figure 6:4). This is the most likely variation in quantity, although it might be possible to project the costs of training programmes of different sizes, where the fixed costs of development would be higher or lower.

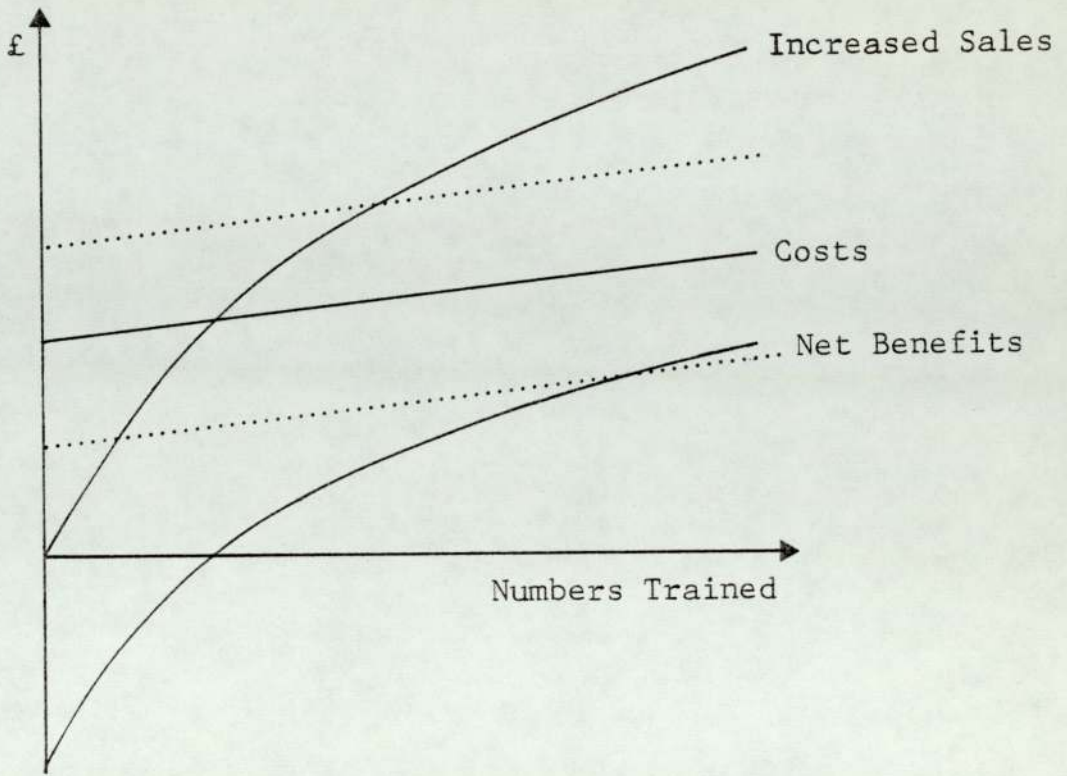


FIGURE 6:4

These are represented in the figure by the dotted lines, but it is difficult to imagine how the benefits from different sized programmes could be assessed without developing every alternative programme, by which time most of the costs would be sunk. The benefits from the package that was used were identified in terms of increased sales (or the equivalent), as compared with a control group. If these



were plotted, they could be compared with costs, and, if plotted so that the participants were placed in descending order of benefit, the curve would indicate diminishing returns. A curve of net benefits might then be constructed by subtracting costs from increased sales, and this could be used to determine the different net benefits for different participants. That would be of particular use if there was a relationship between amount of benefit and some feature of the staff, such as length of service, type of job or managerial rating; for then it would be clear on which staff training should be concentrated. Of course, if the variable costs are as small as has been suggested, the increased sales will probably not need to be great to justify training all staff, as a small gradient in the benefits curve will still equal that in the costs curve.

- 6.2.5. The two mail order examples provide a slightly different use of the model, as they record the progress of participants while improving at a job (as in Butterworth's case study), and also while approaching an acceptable level of performance. In addition, they compared two different methods of training. In the case of the training of order assemblers, there were apparently two levels of performance, that is, of targetted results

of training; the first was considered acceptable, and the second was that of an experienced worker. These two are represented in figure 6:5, together with as much as is known about the time taken to achieve these. The vertical axis in

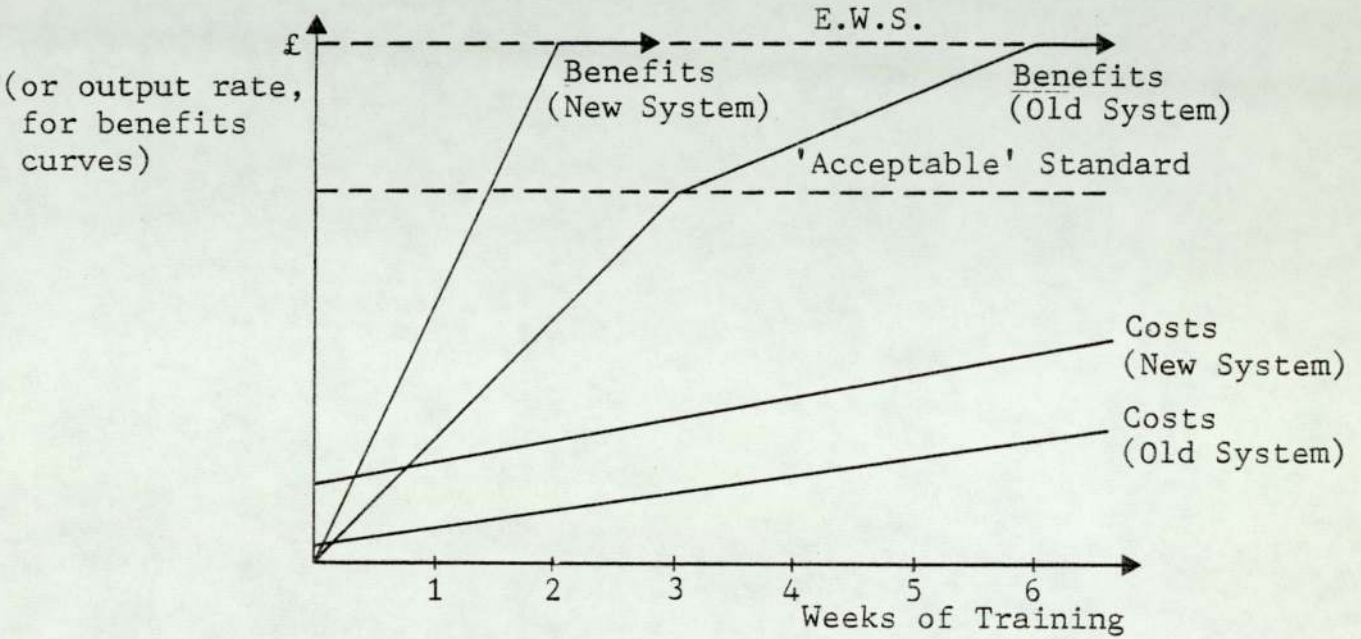


FIGURE 6:5

this figure represents a rate of output, but in many manual jobs this can be translated into a financial estimate; so that the areas under the curves represent the value of output, and this area can be carried on in time, beyond the end of the training period, at the level finally reached by participants. If output did not start at zero, then these benefits would be the output at any time less that at the start.



As far as the costs of these two types of training are concerned, those of the original system would have been mainly variable, since the training was done on-the-job; the few fixed costs might have involved training supervisors in coaching skills, etc. The costs of the new system would presumably be higher, particularly because of the greater fixed costs. These costs are also depicted in the figure. The maximum difference between benefits and costs appears to occur when E.W.S. is achieved (and the model thus confirms the greater efficiency of the new method), although, had the benefits been recorded in more detail, it might have transpired that the gradient on this curve equalled the cost gradient at an earlier point. If this was so, then management would have had to consider whether training to E.W.S. was the correct policy, or whether they should change their training strategy to one which seeks to develop staff only to the point where marginal gains equal marginal costs. It is common in the field of training to think of activities (particularly in manual skills) as aimed at bringing workers to E.W.S. as cheaply or swiftly as possible, but this case study suggests that such an attitude may depend on the definition of this standard, or else may not always be appropriate.

6.2.6. Similar comments apply to the agency clerks case study, although here there was only one standard to which measurement is recorded. The improved system permitted this standard to be reached in less than three-quarters of the original time, and this is illustrated in figure 6:6. As this is a clerical job, the relationship between

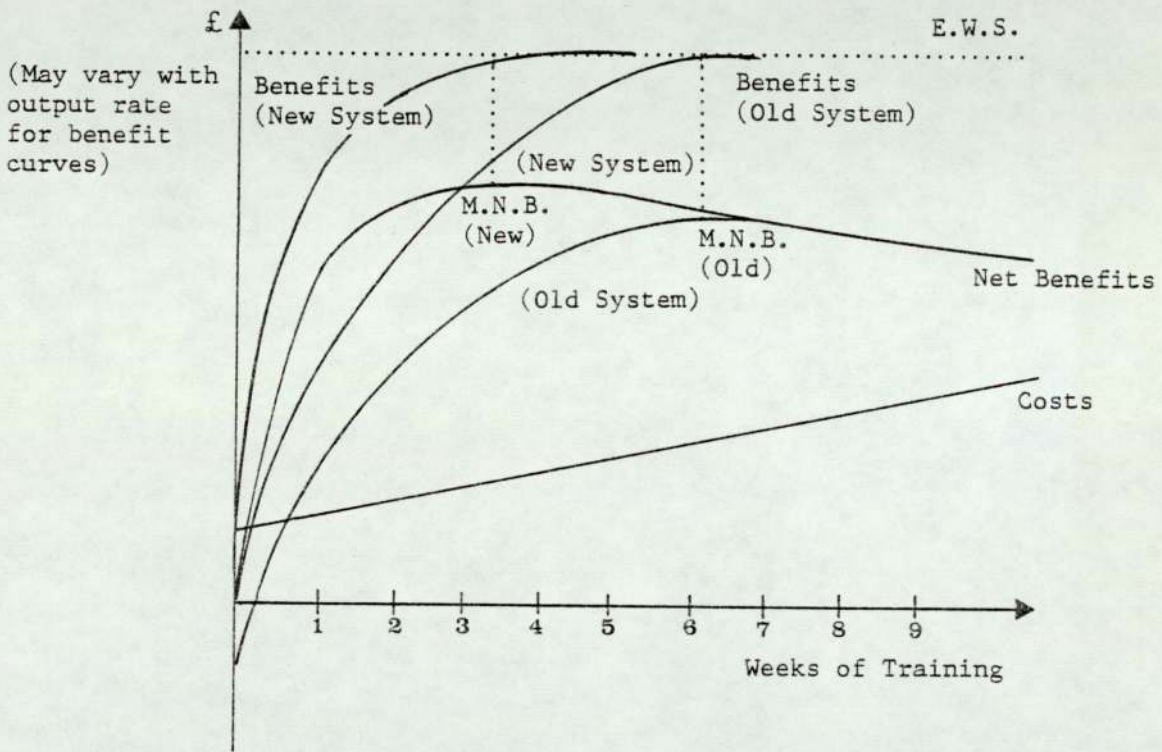


FIGURE 6:6

'output' and financial benefit may not be so direct, and any decision to train to a point of maximum net benefit, rather than to E.W.S., may itself have results which need considering, in terms of greater management supervision and other factors. Hence, on the vertical axis, it is stated that the financial result may equal



output rate.

The curves from the origin to E.W.S. nevertheless indicate how the maximum net benefit could occur from carrying out less training than was originally planned. Although costs are again not known, it appears that, under the new system, they were much the same as originally, so that the cost gradient is the same for both types of training; since the benefits from the new system accrue sooner than under the old, the point of M.N.B. is likely to be sooner. It is quite possible also that it may occur at a higher value of net benefits, so that less training produces better results; but this depends greatly on the exact shape of the benefits curves.

Another use of the model in connexion with this example might arise if the training could be divided into elements or modules, the individual value of which were known. This is perhaps rather ambitious, but it must be recalled that the trainers were able to identify certain components which were being taught unnecessarily or at too great a length; so there must have been at least a subjective assumption that some training effort was justified by its results and some was not. In figure 6:7 the elements are placed, along the horizontal

axis, in decreasing order of benefit so that, with costs roughly equal for each, there comes a

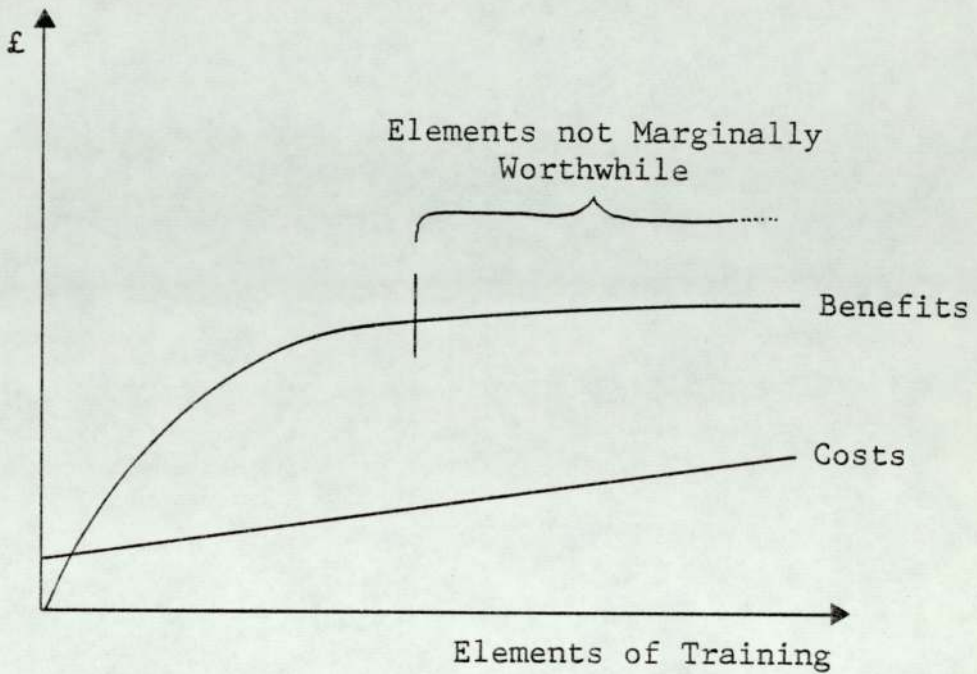


FIGURE 6:7

point at which it is no longer worthwhile to make marginal increases in the number of elements carried out in training. It is on this basis that certain parts of the original training can be excluded. The model may, in this case, only be describing systematically how the subjective decisions of training management are reached; but, if the value of benefits could be measured, it might also become a tool for assisting the decision-making process.

6.2.7. Insufficient detail was available of the case study in



secretarial training to provide much information as to how this case fits the model. However, it seems evident that, whatever other benefits might have arisen from training these employees would have been increased by the reduction in staff turnover; that is, any benefits curve would have been replaced by a greater one, as in figure 6:8, because the benefits would be likely to continue for longer, as the staff tended to stay longer in employment.

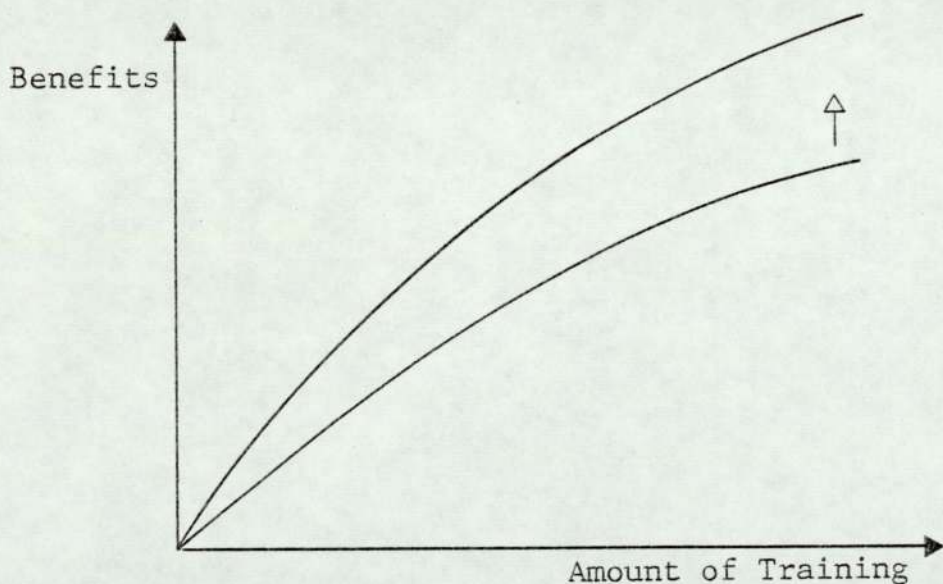


FIGURE 6:8

As far as the overhead value analysis in the same company is concerned, this can scarcely be described as a piece of cost/benefit evaluation; nonetheless, the model still suggests certain strengths and weaknesses in the exercise. The analysis was concerned purely

with costs, both fixed and variable, over a certain length of time, as in figure 6:9; this would improve net benefits, providing the results of training remained the same. The latter, however, is a big proviso. Management of the company involved agreed that they had no way of ensuring that, where costs were

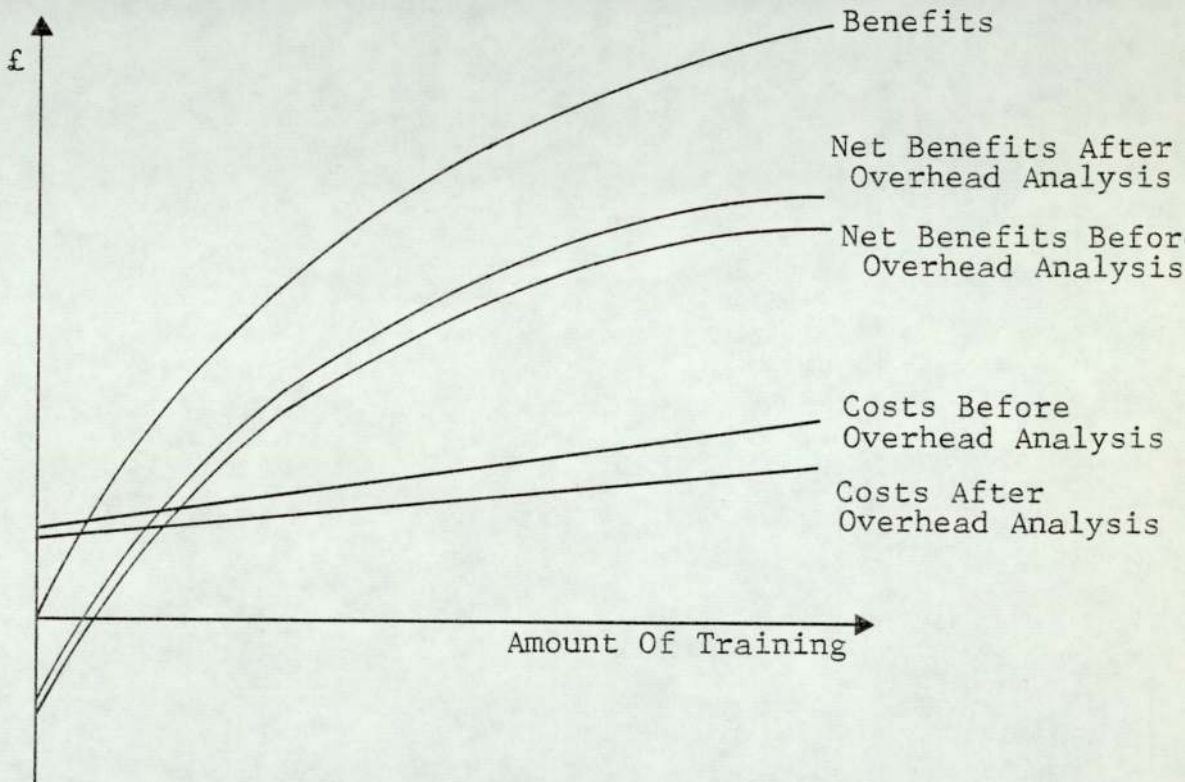


FIGURE 6:9

saved by cutting out certain activities, benefits were not also reduced. If benefits were reduced, this would decrease the values on the net benefits curve; if they were reduced by more than costs, the new net benefits curve would have values less than those of the old. This clearly illustrates a potential danger in conducting this type of exercise.



6.2.8. Crossley's case study compares two different training situations - using trained, or untrained, instructors. Setting aside her doubts about the reliability of the measurements and the experimental design, it is clear that, if the implications of one of her studies are correct, trained instructors produce better results in their pupils. No measurements were taken of how these results were distributed according to different quantities of training, but at least two points can be put on a graph, as in figure 6:10, and tentatively joined

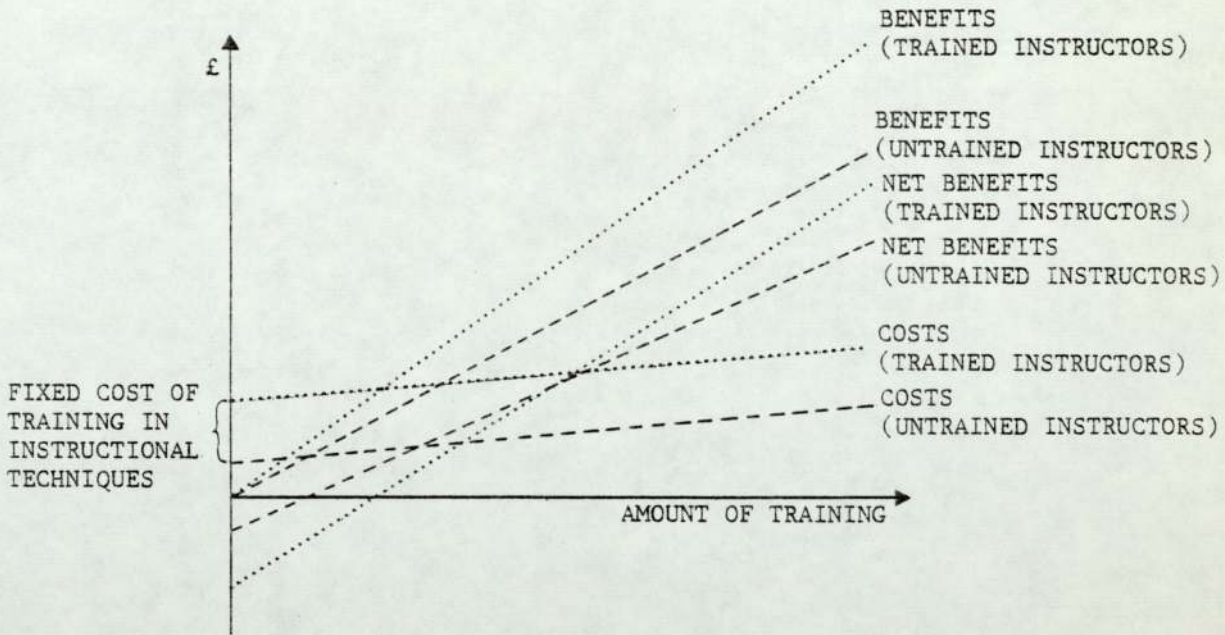


FIGURE 6:10

to the origin by dotted lines (compare the treatment of Hillman's study in figure 6:1). In turn one may infer that, while the variable costs of carrying out the training would be much the same under both experimental conditions, the fixed costs of using trained instructors would be higher, because of the need to train them in instructional techniques. These factors too are shown in the figure, by points connected to the vertical axis by dotted lines. The resulting lines of net benefit show that, if the increased benefits do outweigh the increased costs, they are likely to do so only if the amount of training carried out exceeds a certain quantity. This is because the fixed cost of training in instructional skills has to be 'shared out' among the total quantity of training, and this share decreases as the quantity gets larger. Again, however, whether this phenomenon does occur will depend on the precise shapes of the curves, which here are conjectural.

- 6.2.9. The case study carried out by Lewis and Steed suggests another way of applying the cost/benefit model to distributive training, even though no information was collected by the researchers about costs. They were able to group the company's branches where training was carried out, into "good", "moderate" and "poor performers" and thus it is possible to imagine the different



branches arranged in descending order of "performance", to give a curve of diminishing returns, as in figure 6:11.

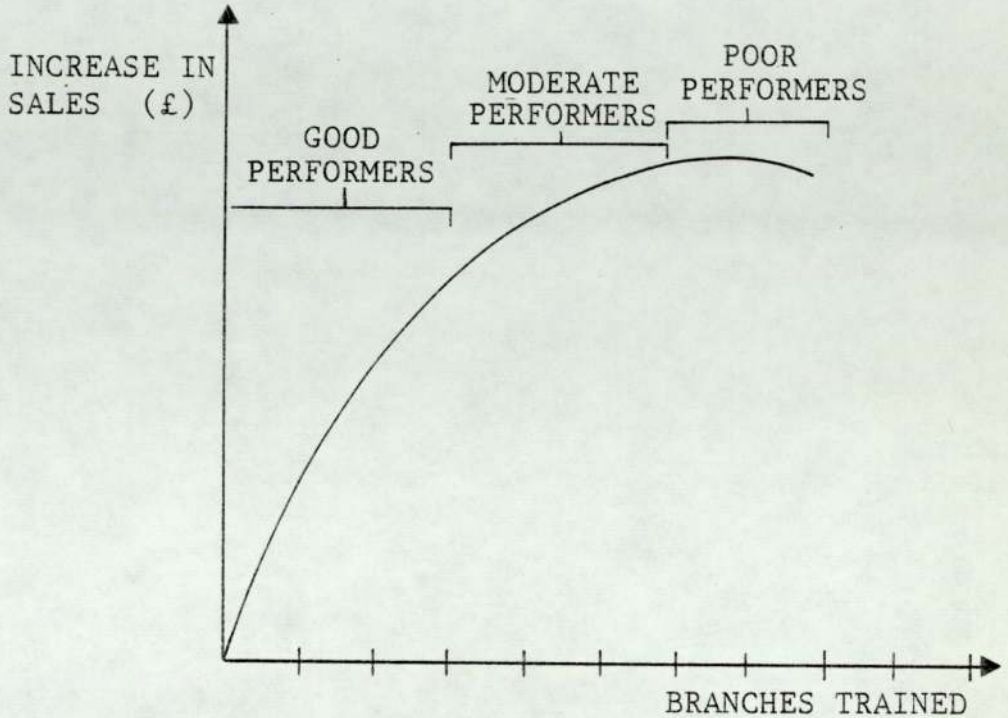


FIGURE 6:11

To provide any information of value to management, some conclusion has to be established about the characteristics which put branches in each of the three groups; without this, the results are not generalisable for future use in other branches, and the evaluation is "an end in itself" rather than "as feedback", to use Burgoyne and Singh's terms (see 3.1.6. supra). In some ways this parallels the situation in the agency clerks case study (6.1.7. and 6.2.6.), where management would need some criterion for distinguishing the elements or modules of training which were or were not worthwhile.

When Lewis's results were first becoming apparent in 1976, he discussed them with the present researcher, who suggested that geographical distribution might be a factor in determining how branches would perform. The good performers seemed to be concentrated in inner London, and the poor ones in the other suburbs. This did not prove to be the case, but Lewis and Steed succeeded in finding other criteria, relating to interest among staff and management, inexperience among staff and poor reputation of branch. If a study were carried out to establish whether financial values could be placed on such criteria, and the marginal cost of training in extra branches was estimated, it might be possible to determine which branches were worth training and at what point the input ceased to be justified.

6.2.10. Lastly, the training of the pickers and packers is an example of training, coupled with a new system, which raises the final level of performance. This can be represented as in figure 6:12, where the two points mark the final average performance from the system introduced and from whatever method there was of training previously. It was recorded that, after the new system was introduced, all staff were productive enough to justify their guaranteed day rate, whereas this had not previously been so;



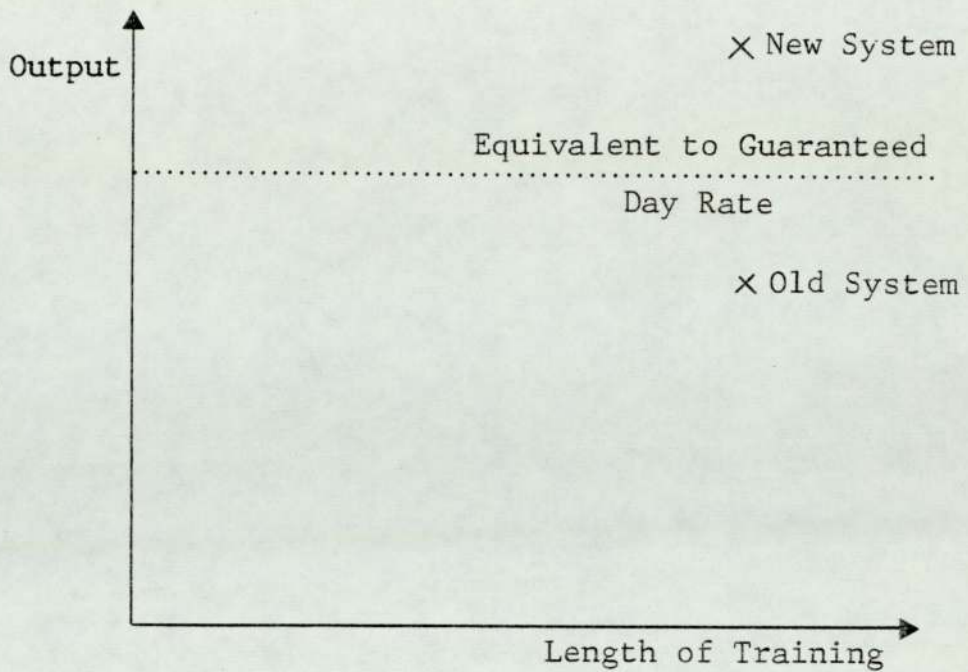


FIGURE 6:12

a line indicating such a rate of output is shown on the figure.

An alternative representation of this case study is illustrated in figure 6:13, where only benefits from the increase in performance are shown as a benefit of the new system and training. There is in this case only one point depicted, but, had a study been made of the increases in performance as training proceeded, it might have been possible to describe a curve of results. No such curve is known, but a dotted line is shown in the figure, to depict a likely situation with this type of training, where very little benefit may arise unless the training is carried out in total.

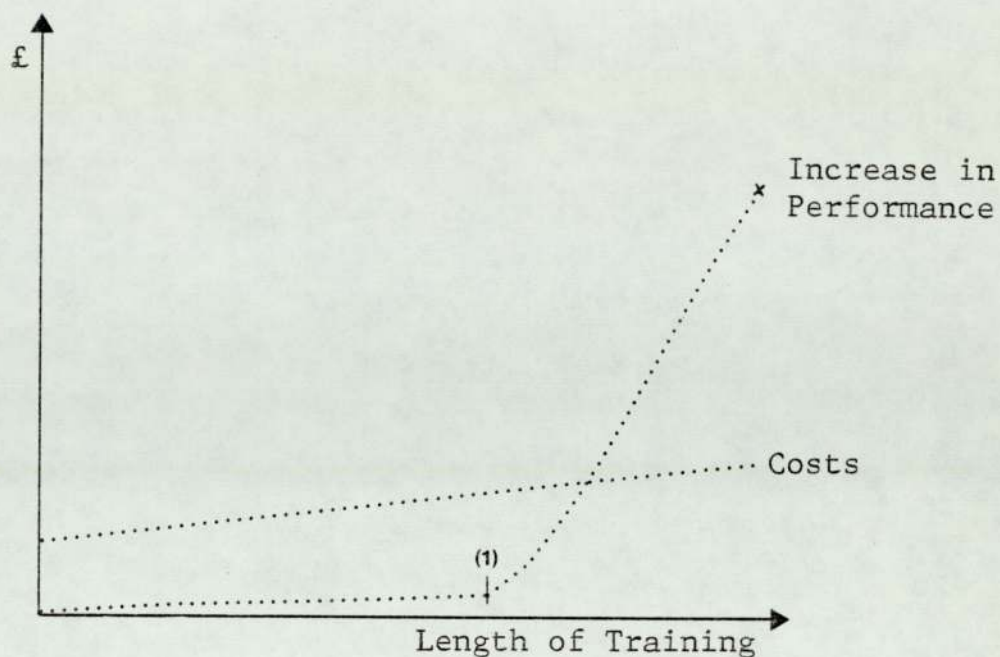


FIGURE 6:13

This is because the new system may need to be taught as a complete whole. If this were the case, then it is likely that the gradient on the results curve would exceed that of the cost curve only after a certain length of time (marked (1)), but from then on would exceed it for as long, or almost as long, as the training was carried on. Hence this training would be justified only if carried out in total, or almost in total.

6.2.11. From this review of the limited number of case studies known in this field, it is evident that the model for analysing costs and benefits has widespread application. It was possible to represent every study graphically in



terms of the model, although in no case was all the information available which would have been required to determine the optimum quantity of training. In particular, no cases provided data on the cost input to training. Also, many cases did not analyse the results of different amounts of training, nor did many compare the benefits attributed to training with any changes which controls might have undergone.

A further point to remark is that, when benefits were recorded or asserted, they were very often in terms of job performance rather than of ultimate financial value. While it was noted that in many cases the data could be converted into financial information without a great deal of difficulty, it is clear that in practice trainers are more generally evaluating in terms of job performance (perhaps 'validating' is a better term for this) than in terms of cost/benefits.

6.2.12. Consequently, there is much scope for research into the costs of training, and the financial results of different amounts of training, especially if controlled conditions are possible. The next six chapters describe case studies in this field, and, together with chapters 13 and 14, attempt to assess how useful the contribution from such research can be. Yet it

is clear, even from the limited information provided by the studies in this chapter, that investigations using the model of cost/benefits have the potential to illustrate strengths and weaknesses in training methods. They may suggest where insufficient, or where too much, training is done. They may confirm the subjective impressions gained about the value of training and, where enough information is available, may enable trainers to choose the most productive training to concentrate upon. Also, they may lead training management to a better appreciation of parts played by fixed and variable costs in making different types of training productive; from this, more informed decisions might be possible about the type of training appropriate in different circumstances. The inference, then, is that the cost/benefit model provides, at very least, a useful way of thinking about training.



## TRAINING IN BACON PREPARATION

"The nutrition of a commonwealth consisteth, in the plenty, and distribution of materials conducing to life: in concoction, or preparation; and (when concocted) in the conveyance of it, by convenient conduits, to the public use".

(Thomas Hobbes, *Leviathan*, ch. XXIV)

*This chapter describes a course in an area of occupational skills, bacon handling. Output in this field is more easily measured than in some others, and data on sales, wastage and hygiene were investigated with a view to establishing whether the training had been successful. The course was concluded to have had greater benefits than costs, although a number of problems are discussed which hampered the full implementation of the research design. The greatest benefit was not, however, in any of the three criteria measured, but in the availability of one employee for other duties following the improvement in skills of his colleagues after training.*

### 7.1. Type of Training

7.1.1. It has been noted (see 2.4.3. supra) that Breislin (1972), discussing the bacon department in a supermarket, remarked on the problem of inflexibility of staff. A number of jobs are carried out in this department, some of which, because of the potentially dangerous machinery involved, it would be unwise (and perhaps illegal) to permit untrained staff to perform. A chain of

high street supermarkets runs a three-day course in all the skills of bacon handling, to enable their staff to operate as fully as possible in this field.

In the company's area which takes in the West Midlands and branches south-westwards as far as Bristol, training was carried out in the handling of bacon, according to the central training department's specifications. It was the ultimate aim that all staff in bacon preparation rooms in the eight branches in the area would be trained in every skill appropriate to the job, and this was being carried on by a series of courses, each with about 6 staff.

In preparation for this study, a task analysis was carried out in a bacon room, to determine the main aspects of the jobs involved. This was subsequently compared with the subject matter of a course, which was found to correspond with it very well. The course lasted three days, and was effectively on-the-job, as it involved carrying out all the normal duties needed in bacon preparation during that time, to supply the store with its bacon requirements. Under the



instruction of an area supervisor, participants were taught the receipt, storage, jointing, cutting and wrapping of bacon, besides the necessary information on hygiene and safety.

7.1.2. The course analysed was run at a branch of the company ('Branch A'), with six participants, who worked after training at three different branches. They were allocated as follows.

At Branch B was one relief butcher, who worked in bacon preparation in this branch for eleven weeks following the course, when the permanent bacon handler had resigned; and one management trainee, who had almost no practice in bacon after the course. The former was an experienced butcher, but with no practice in the company's methods of handling bacon.

At Branch C was one bacon handler with four months' experience. He left the company's employment some five months after the course.

## 7.2. Criteria for Measurement

7.2.1. After discussion with training and line management, it was decided that improvement might be expected in three criteria which seemed measurable by use of the company's systems.

The first of these was bacon sales for the four months after training. An analysis was made of the actual output of packs of bacon from the records of branches. However, many branches did not keep such records, and even when they did, the concept of a 'pack' of bacon did not appear consistent enough to be used; a 'pack' may cover a large range of sizes. Consequently, sales were assumed to relate to the number of sides of bacon purchased, and were expressed in units of 'equivalent sides', so that joints purchased individually could be compared.

The second criterion was recorded wastage of bacon over the same period. This refers to the sales value of bacon that is destroyed or reduced in price after remaining unsold in the display unit. It can, therefore, reflect good or bad management of bacon, anticipation of demand, good presentation, etc; it will not reflect the



quality of the cutting, boning or rashing directly, as wastage thrown away before pricing is not costed.

Thirdly, hygiene on specific occasions in the three months after training was considered as a criterion for measurement. This measure makes use of microbiological analyses carried out by the company's nursing staff, in theory about every eight weeks, but in fact much less often. Pressure of work on the nursing staff meant that only two tests were carried out in all three branches together in the three months, an incidence which seemed typical of the rate of testing around the time of training.

7.2.2. The actual measures taken for these three criteria were:

- (a) A two-week moving average of sales, expressed in this way to compensate for over- and under-ordering of sides; which was compared with the mean of weekly sales during the four weeks up to and including the training week.

- (b) A four-week moving average of wastage,

expressed in this way to compensate for fluctuations in trade and dates of repricing bacon over a long enough period; as details of wastage were available in four of the control branches for the six weeks up to and including training, the wastage averages were compared with the mean of these six weeks.

(c) The number of colonies of bacteria per 36 square centimetres found on each of nine swabs taken from various locations in the preparation room.

7.2.3. The hypothesis of the training was that there would be increases in sales, decreases in wastage and improvements in hygiene sufficient, when valued financially, to justify the costs of running the course. The hypothesis of the evaluation was, then, that the measures of the criteria involved would indicate satisfactorily whether such a change had or had not taken place, or to what extent it had taken place.

### 7.3. Performance of Branches

7.3.1. In the case of all three criteria, it was decided to compare the performance with that of a control



group, consisting in total of the five other branches in the same geographical and management area as the three being studied. These were chosen, partly for the sake of easy access, and partly because they were considered as similar as could be expected to the experimental group, in terms both of operating policy and outlook, and of customer market. However, because similar records were not kept for each branch, in many cases the three experimental branches were being compared against a control group of three or four, rather than all five, others.

7.3.2. Once data had been collected, it was evident that performance had varied greatly between one branch and another. Striking differences in statistics reflected, amongst other things, the different contributions made to the bacon department of each branch by the participants trained. Thus at Branch A, the two packers took over their preparation room almost totally, and released the former bacon cutter for other duties. At Branch B, the relief butcher was operating for 11 weeks, largely alone, having been transferred to this branch soon after training; while the other participant was not used in bacon at all.

And in Branch C, the handler, with limited experience already, continued doing the same job as before, working as one of a team in the bacon room.

It was known that, in some branches, sales were small enough to permit one person to man the bacon room, while in others two or more were needed; but it had not been the intention of the firm that participants' practice after the course should vary. The weeks immediately following training were seen, by the training department, as an important follow-up. This difference in experience immediately after training caused problems for the research design; for although the possibility of a controlled experiment was considered, it was clear that little statistical analysis of results would be possible, because it is not generally permissible to compare individual results with those of a control group.

- 7.3.3. In addition, when the sales and wastage levels of the control branches were compared with those of the three branches in which the participants worked, some were found to be missing, as records had been destroyed, and estimates had to be made



by accepted statistical methods (Cochran & Cox, 1957). Then an analysis of variance suggested that there were such significant differences within the data that no statistical comparison was appropriate between the training and control branches. As a result, it was decided to investigate the results on their own, and carry out a similar enquiry in comparison with the controls, but without attempting to draw any generalisable conclusions about statistical significance.

- 7.3.4. At Branch A, wastage decreased steadily from its pre-training level, until 5 weeks afterwards it was some 74% of the original figure. For the next ten weeks it maintained an average of about or below this level. The Branch Manager remarked on this improvement, which he attributed to the training, in particular because the two bacon packers had now replaced at cutting and jointing the former cutter who had been trained on-the-job.

However, the tendency among the control branches was also a decrease in wastage during this period, so that the average wastage was some 69% of the

original figure. This makes one question whether the decrease in Branch A was due to training, or whether it was due to external factors such as patterns of trade, the climate and so on.

Wastage at Branch B, during the 11 weeks when the relief butcher worked there, increased by just under 4% on average, while during all the 16 weeks after training it declined by an average of 13%. However, these statistics hide a very distinct difference in performance, as a sharp reduction in wastage occurred after 6 weeks from training. During these 6 weeks wastage averaged 40% over levels before training; during the next ten weeks, it averaged 45% below the same levels, and 60% below the first six weeks. This sharp change is apparently attributable to a warning about unacceptable amounts of wastage given by the Branch Manager at this time. If only the weeks when the relief butcher was working are taken into account, those before this warning had wastage 42% above levels before training, while those after had wastage 33% below.

A comparison with the reduction in wastage among the control group can be made. During the weeks



when the relief butcher was present), and during the weeks after it was  $32\frac{1}{2}\%$  until he left and 37% until the end of the period studied. For the whole 16 weeks after training, wastage among the controls averaged just over 31% down on the period immediately before. Thus, after the warning was given, the performance of Branch B was marginally better than that of the controls.

Wastage at Branch C stayed near its pre-course levels on average over the sixteen weeks after training, although for the first few weeks the figure tended to be higher. Thus over the first eight weeks it was some 22% higher, and over the first eleven weeks some 15% higher. In the next five weeks, on the other hand, it was 34% below the pre-course level. The change appears to have occurred after the eighth week after the course, and there is no clear reason for it. It would not be right, however, to attribute it to training.

7.3.5. Sales at Branch A remained steady over the 17 weeks following training, averaging between 99% and 100% of the sales in the four weeks before and during the course. In contrast, however, sales among the control group increased on average

by more than 9%. T-tests on the sales indices suggest that the difference between the branch and the controls became significant only 9 weeks after training. Before that point, the difference in sales was less than 3% in comparison with the base period, implying that any net reduction in sales at Branch A took place some weeks after training.

The sales at Branch B increased in the weeks after the course, and were remarked upon by the Branch Manager. The average increase over the period immediately before was nearly 17%, compared with the increase for the control group of some 9%. The increase at this branch was particularly marked in the first weeks after the course, and in fact t-tests show it to be most significant ( $p < .001$ ) up to the twelfth week.

Interestingly, this period corresponded with the time during which the relief butcher, who had participated on the course, operated at this branch. He commenced after a gap of one week after the course, and continued for 11 weeks; while the other participant received almost no experience in bacon at all. During these 11 weeks,



sales increased by more than 23% (compared with some 7% among the controls).

Sales in Branch C fluctuated after training, reaching a figure 27% above the mean pre-course level almost immediately, declining over four weeks to 42% below, increasing over three weeks to 19% above, changing frequently for six weeks, and then going into a steady decline. On average, however, sales increased by less than 1% over the 18 weeks after training.

Here again, comparison with performance of the control group suggests that the branch's sales did not increase as much as might have been expected. In this case, however, the greatest shortfall in the branch's sales came in the last few weeks of the study when the course participant knew he was leaving the company. It is not possible to say whether this had any influence on sales; but it should be noted that for two weeks after training this branch's sales had increased by 21% and 11% respectively more than the control group's (after adjustment for sales levels before training), that for the first four weeks they were on average nearly 3% more, and over the first

eleven weeks they were less than 6% less. Though no statistical tests were possible in this case, it does suggest that such positive effect as the course may have had, showed itself mainly in the first few weeks.

7.3.6. As far as hygiene is concerned, one inspection was carried out in Branch A during the period. This was seven weeks after training, and the microbiologist described the results as "on the whole very good". The number of colonies of bacteria was almost identical to those found in a previous inspection three weeks before training, and less than 10% in excess of those found at an inspection 16 weeks before. When it is considered that the hygiene performance of the control group became 72% worse after the course (though on data too limited to allow for statistical testing), it appears that standards of hygiene were at very least maintained in this branch, and probably underwent a small improvement.

One microbiological analysis was carried out in Branch B during the weeks after training; this occurred three weeks later, and the number of bacterial colonies found was 36% down on the



number found at the previous inspection some fourteen weeks before training. This is a considerable improvement in itself; and when compared with the performance of the control group, which increased its number of colonies by 72%, it is even more striking. If adjusted to take account of the controls, the reduction in this branch was some 65%; as in the case of Branch A, however, too few analyses took place to permit any conclusions as to the statistical significance of this.

No hygiene inspection was carried out at Branch C during the period immediately after training, so that it is not possible to say whether there was any effect at this branch.

7.3.7. Another result must be noted for Branch A, in that, whereas previously one packer was employed full-time in bacon, and one cutter and one packer part-time, the course allowed the cutter to be released for other duties. The two packers were able to run the bacon department on their own, once they had sufficient practice at cutting; while they were getting this practice, the third course participant also operated for some of the

time in the preparation room. Consequently, the output of the preparation room was obtained while releasing one employee for the greater part of his time for other work.

7.3.8. Thus the three branches investigated performed each in its own manner after the course. Branch A experienced a significant decrease in wastage, and steady rates of sales and hygiene; on the other hand, comparison with the control group would suggest that these represent a small increase in wastage, a decrease in sales that became pronounced some nine weeks after training, and a small improvement in hygiene. Branch B experienced a small decline in wastage overall (comprised of a slight increase, followed by a sharp decrease after managerial intervention), a significant increase in sales, and a marked improvement in hygiene; when compared with the control group, it seems these represent a significant increase in wastage for six weeks followed by a slight improvement, a significant increase in sales and a very striking improvement in hygiene. Branch C experienced an increase followed by a decrease in wastage, and an insignificant increase in sales; when compared



with the controls, this represents an increase in wastage, and a significant decrease in sales.

- 7.3.9. The experience of the course which was studied suggested that a further method might be used to measure benefits. This involved choosing sides of bacon, and grouping them into pairs, as equal in weight and structure as possible. Then one of each pair would be jointed and sliced by the participants at the start of the course, and another at the end. If, in each case, the wastage was retained and weighed, the saving in wastage from better preparation as a result of the course would be measured. In theory, a similar exercise would be desired with a control group of staff, but this would seem rather unnecessary where a specialist manual skill was involved, at which those receiving no practice over as short a period of three days would not be likely to improve.

It was hoped that this exercise might be attempted, at least with one side of bacon at the start and end of training, on a future course. In fact, however, this was not carried out, largely because the course at which the trainer had agreed to do

it was cancelled.

#### 7.4. Costs

7.4.1. A certain number of the theoretical costs have to be ignored because of the circumstances in which the training was held; thus, the room used was in everyday use for bacon preparation, and so all overheads relating to the building, utilities, equipment, etc, would have been paid in any case.

On the other hand, some costs do need to be considered in this context. There are variable costs (i.e., varying with the number of participants trained) in the form of expenses, and the salaries and overheads of employing the staff; and a fixed cost (i.e. fixed for the course, however many participants there may be) arising from the salary and overheads of employing the instructor. In addition, a fixed cost of all training is its share of the cost of the company's training establishment, which participates in administering it.

7.4.2. Thus the total fixed cost of running the three-day course can be estimated at:



	£
Instructor's salary @ £3500 p.a.	46
Plus employment overheads	11
Training Establishment administration	<u>150</u>
	<u>207</u>

The variable costs can be estimated at:

<u>Branch A</u>	£
2 bacon packers @ £2100 p.a. plus overheads	68
1 trainee @ £1750 p.a. plus overheads	29
<u>Branch B</u>	
1 relief butcher @ £3000 p.a. plus overheads	49
1 trainee @ £1750 p.a. plus overheads	29
<u>Branch C</u>	
1 bacon cutter @ £1900 p.a. plus overheads	<u>31</u>
Total	<u>206</u>

7.4.3. An investigation was made into the expenses of participants, but it was found that these were too small to be significant. The course was held at Branch A, where three of the participants worked, and the other two branches were not far distant.

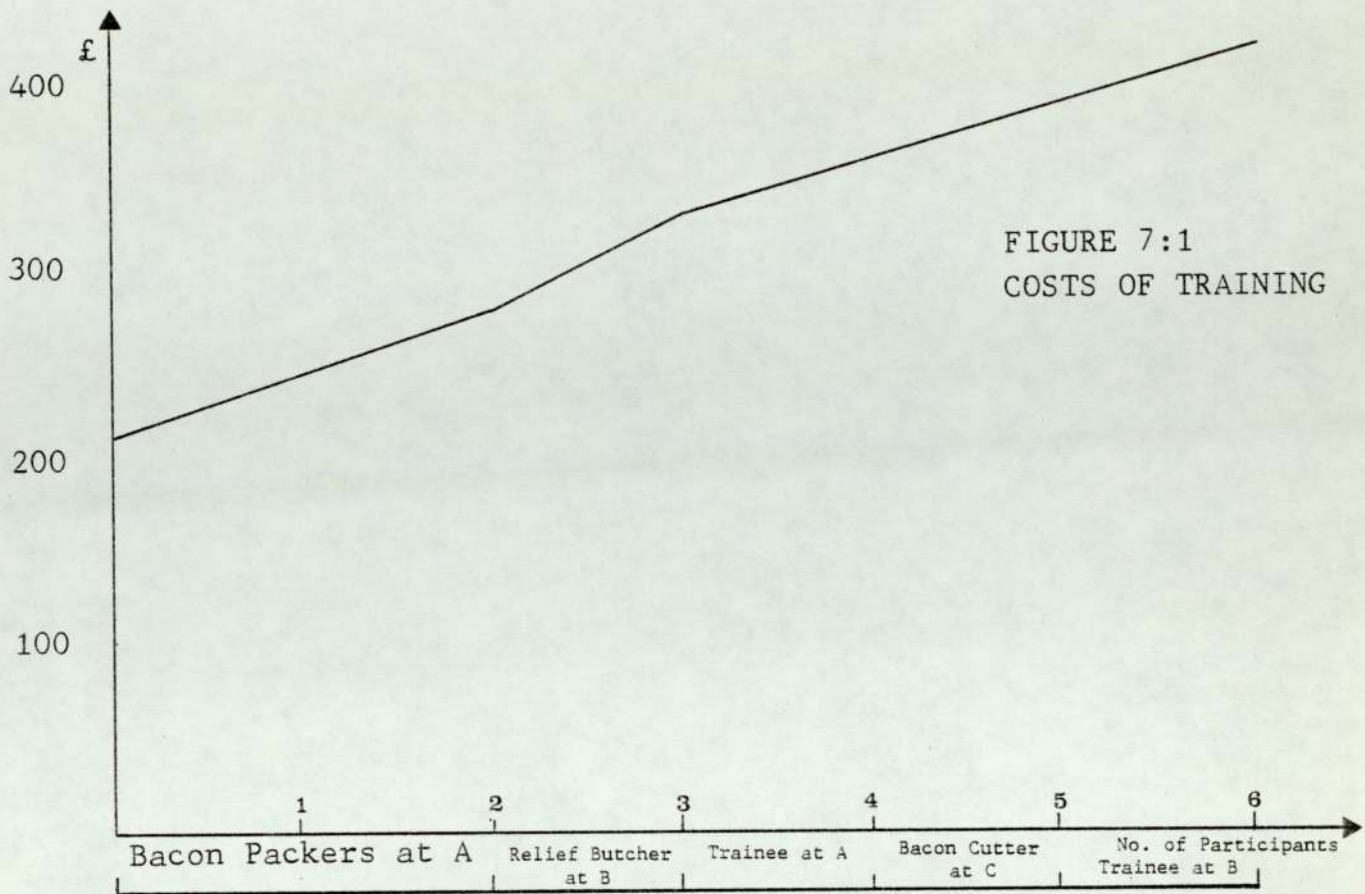


FIGURE 7:1  
COSTS OF TRAINING

These costs may also be represented graphically (see figure 7:1) with the number of participants measured along the horizontal axis, and with each participant specified. The order in which the participants' costs are given will be explained in due course (7.5.8. *infra*).

### 7.5. Benefits

7.5.1. If the controls are disregarded, the conclusions of the exercise would be as follows. Training influenced, as desired, all three criteria, though not in every branch. The main improvements



were in wastage at Branch A. At Branch B they were in sales, although wastage also improved once accompanied by managerial activity. And at Branch C they were in wastage, although the desired results occurred after such a delay that no influence from training can properly be acknowledged. Finally, at both the branches where measurements of hygiene were taken, there was a distinct improvement.

7.5.2. Since there is a problem in determining the true relationship of the results to the training from the statistics alone, it is important that the individual circumstances of the participants in each branch should be investigated. These have been described, and can be related in some cases to the results.

At Branch A, two bacon packers were enabled to cut and joint sides. This job had been done previously, quite adequately as far as quantity was concerned, by a cutter; he had not been trained on a similar course, however, and there was some doubt about the quality of his work. If successful, therefore, the training might have been expected to reduce the amount of

wastage, as did happen. On the other hand, the better appearance of the bacon, which would be one factor in this result, might also be expected to improve sales, and this did not occur.

At Branch B, one of the two participants worked hardly at all in bacon, and so no results can really be attributed to his training. The other worked for eleven weeks during the period after the course, and sales increased significantly during these weeks. This suggests a definite connection with the training. In the case of wastage, it has been noted that an improvement occurred after managerial action. This may be taken to show either that a warning from a manager is more effective than training, or else that one is effective only when supported by the other. In the absence of any experimentation on the effect of managerial action alone, it would be impossible to judge between these; but both were present in this case, and it is hard to imagine how any warning can cause improvements unless the proper method is known - so it seems likely that the best results are obtained after both training and managerial support. What can



be concluded with some certainty is that the influence of training is limited where it is not backed up with managerial action. This is shown also by the lack of practice received by the other trainee at this branch, which clearly produced no results.

Finally, at Branch C, the sole participant continued in his job as before. On being interviewed, he expressed a very high opinion of the course, although he appeared to feel that his Branch Manager did not fully agree with some of the techniques taught. The fact that he left the Company's employment after a few months suggests that he was not in proper harmony with his job in the period after training; the training can have no direct result for the Company after he left, and it seems likely that it was minimal before.

7.5.3. To summarise, then, the results of the training, as measured by the evaluation, appear to have been as follows.

Where the training was not accompanied by both managerial support and a positive attitude on

the part of the participant, there was little or no measurable benefit. This applies in the case of one participant who received only minimal practice after the course, to a second who resigned after a few months, and to a third until he was exhorted by his manager to perform better.

7.5.4. Where managerial support and a positive attitude were present (and interviews with participants and managers indicated this), there were improvements of:

- (a) In Branch A, 11% on average in wastage, or approximately £4 per week;
- (b) In Branch B, 23% on average in sales, or approximately 3 sides of bacon per week, but over the course of only 11 weeks;
- (c) In Branch B, 33% on average in wastage, or approximately £15, but over the course of only 6 weeks;
- (d) In Branch B, 32% in hygiene.

7.5.5. These improvements do not take account of the comparison with controls. If these are also considered, the apparent improvements were:



- (a) In Branch B, 15% on average in sales, or approximately 2 sides of bacon per week for 11 weeks;
- (b) In Branch B, very slight wastage over six weeks;
- (c) In Branch A, 42%, and in Branch B, 65% in hygiene.

But together with these must be considered at least one apparently adverse result when performance is compared with that of the controls. This is the relative increase in wastage of about £1.24 per week (or almost 7%) at Branch A. Various other adverse results might also be considered, but they would all be discounted (as would positive results) on the basis that managerial support and a positive attitude were not necessarily present.

7.5.6. In addition, at Branch A one bacon cutter was made available for most of his time to carry out other work; this result applies regardless of the controls.

7.5.7. Before these results can be fully interpreted, they need to be converted into some standard

financial format. This brings attention to a number of problems.

First, the money saved on wastage can be counted as a direct return from the training, as it is money in the till that would otherwise not be. There might, in theory, be an outlay on the extra transactions which take place when this bacon is sold; but the marginal cost of each sale is negligible, and is probably compensated for by the work saved in not reducing the price or destroying the bacon. At one branch, however, the saving is a regular occurrence, expressed in pounds per week. A decision is needed on the period of time for which the saving is to be counted. In the absence of any information on how long the improvement continued, or on the likely length of service of the trainees, one can only make an arbitrary estimate. Since staff turnover does not appear to be high, it seems reasonable to speak of this return from training as taking place for one year, in the knowledge that it may well continue for longer. The results of training in the form of improved wastage at Branch A can be taken for the first year to be approximately  $\text{£}4 \times 52 = \text{£}208$  (without



considering the controls) or  $-\text{£}1\frac{1}{2} \times 52 = -\text{£}64$   
(taking the controls into account).

Secondly, a similar decision might have been needed in the case of sales, had any continuing results been found. As it happens, the only change in sales that needs noting occurred for a limited number of weeks, so that the timespan to be measured is quite evident. However, the evaluation must determine the financial value of the extra sides of bacon that are sold following training. An exercise carried out by researchers in the company a few months earlier suggested that an average branch sold 32 sides of bacon per week, took a gross profit of £178 from them, and spent £21 in packing for them. Other costs were also studied, such as those of pay and equipment, but the above are the only immediately variable costs. On this basis, the average marginal return from the sale of a side of bacon is  $\text{£} \frac{178 - 21}{32} = \text{£}5$  approximately.

At the rate of £5 return per side of bacon, the value of the increased sales at Branch B is  $\text{£}5 \times 3 \times 11 = \text{£}165$ , when comparison with controls is disregarded. If the performance of controls

is also taken into account, this increase becomes  $\text{£}5 \times 2 \times 11 = \text{£}110$ .

A third problem is the near impossibility of putting a financial value on good hygiene; a shortcoming in this area may constitute a criminal offence. Any adverse reputation or publicity may have substantial financial consequences in a number of ways: loss of sales, extra expenses, legal costs and fines, adverse staff relations, and so on. The company considers that its standards of hygiene are high, and its public reputation correspondingly good. This, however, implies that the probability of adverse publicity is small, which may appear to limit the possible return from any improvements. Thus if a company had only one such incident in five years among, say, 100 branches, the probability of an incident in any branch per year would be .002. Even if such an incident wiped out the whole of the branch's first profit on bacon for that year, this would amount, at the estimated first profit on bacon in the average branch in this company ( $\text{£}2450$  p.a.), to less than  $\text{£}5$  per branch per annum.



On the other hand, the microbiological analyses among the controls (though too few to be of statistical significance) found an increasing number of bacterial colonies, suggesting that, without persistent effort from the company, standards of hygiene are likely to decline. This corresponds with commonsense, and presumably increases the likelihood of an adverse incident occurring. More detailed, systematic records, and further research would be needed before any estimate of the hazards of not training could be made. What is clear, however, is that training which improves hygiene is desirable on many grounds, including good employment practice and the criminal law, and has positive financial consequences which may on some occasions be substantial. For the sake of this exercise, however, only minimal ones will be estimated (say 5p for every 1% improvement in hygiene, equivalent to the £5 calculated above).

Finally, a value has to be placed on the spare time created by releasing the bacon cutter at Branch A; the inflexibility of staff, similar to the situation referred to by Breislin, was reduced by the training, and this is a valuable

benefit. It is probably best here to make an estimate on the low side, to compensate for the fact that he already carried out some duties unconnected with bacon, and for the possibility that some of his spare time might remain slack rather than being put to good use. Thus a value of 50% of his cost of employment seems a conservative estimate.

On the basis of a salary of £2000 p.a., plus employment overheads, this result can be valued at about £1250 per annum. As above, it is not certain how long this benefit will continue, so it is appropriate to make the estimate cover one year.

- 7.5.8. It is possible to allocate these results of training to the various branches, so as to see, when compared with costs, where the best return was derived. The participants at Branch A brought about an improvement of £208 (sales) + £1250 (release of cutter) = £1458 approximately, without considering the controls; or -£64 + £2 (hygiene) + £1250 = £1188 approximately, if the controls are taken into account. Since one of the three participants was operative for some



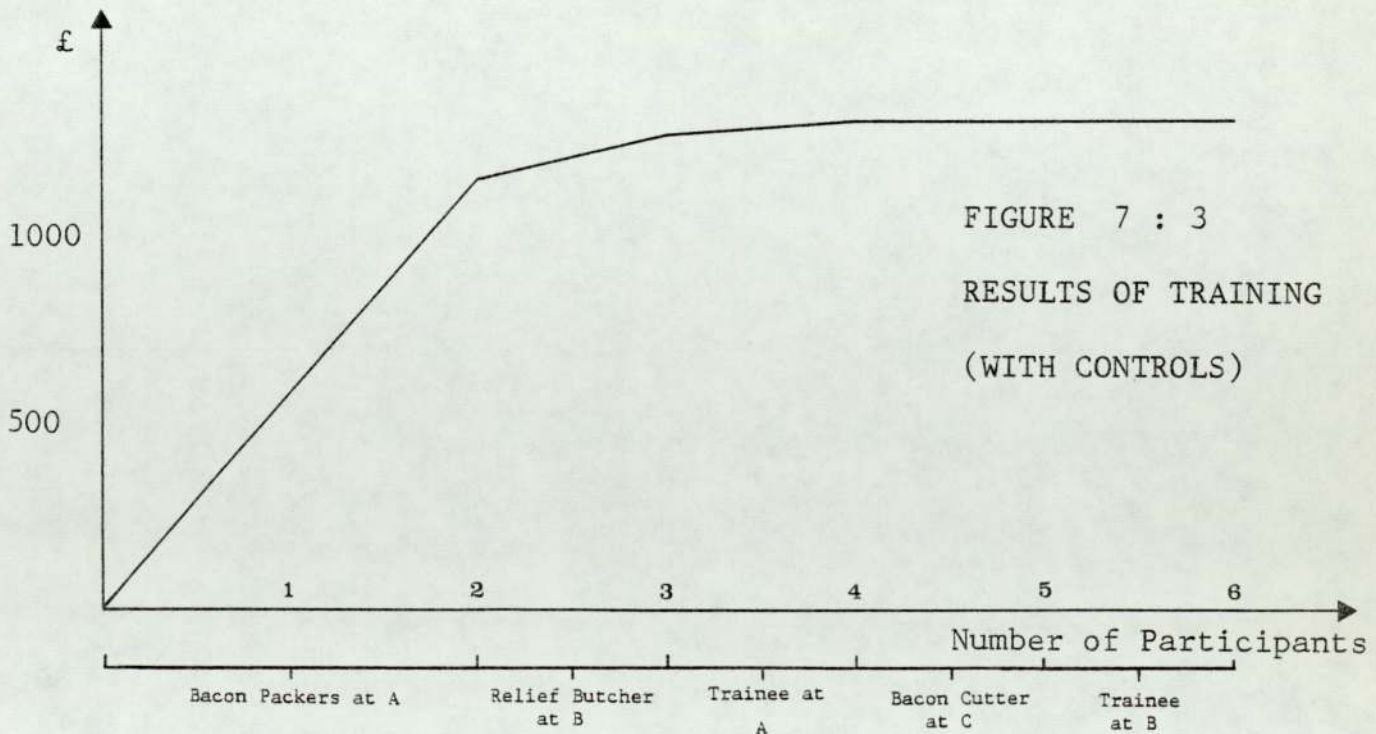
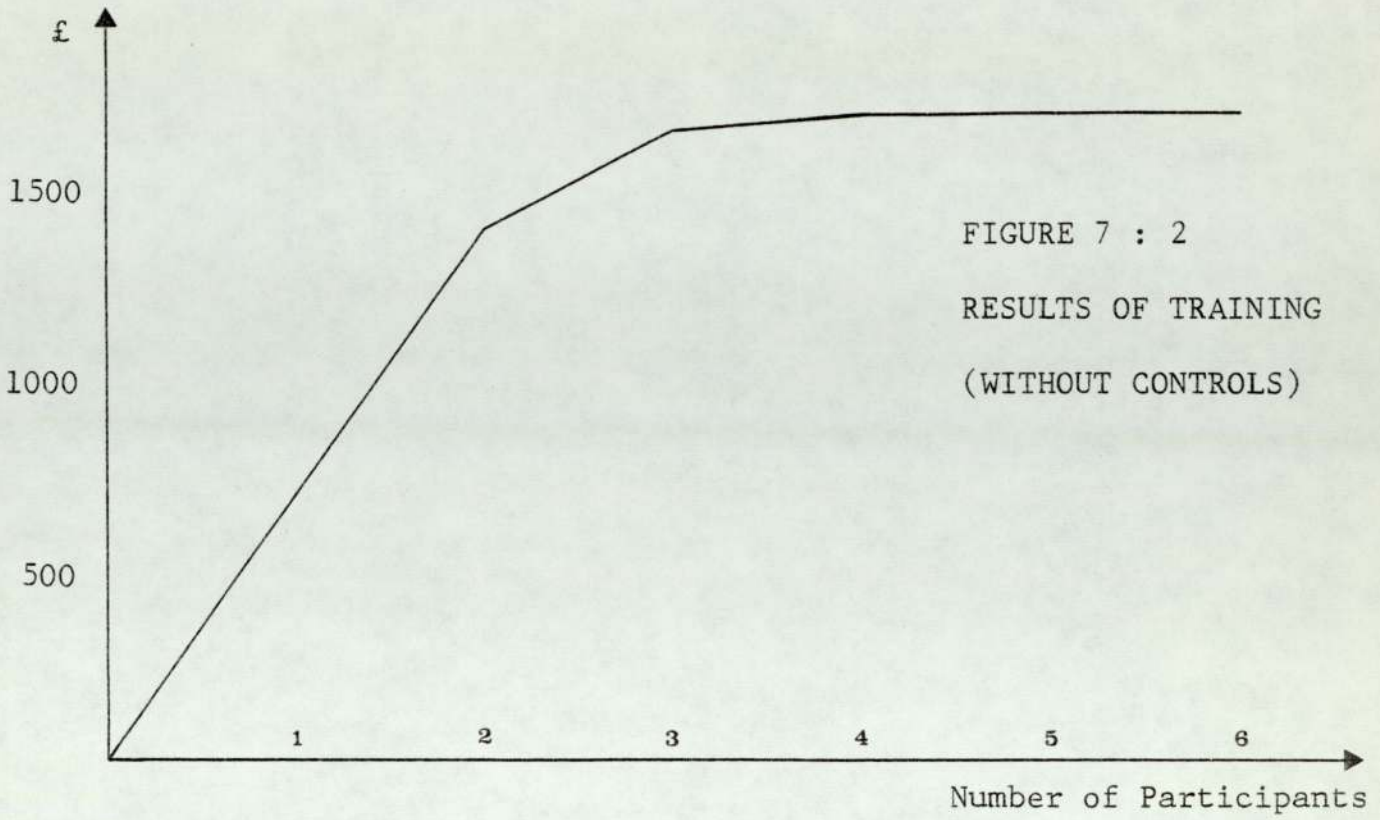
four weeks only (and that when he was developing his skill), it would not be appropriate to allocate more than, say, about 3% of this to him, and thus the other 97% is allocated to the other two - that is, £44 and £1414 respectively without controls, and £36 and £1152 with controls. At Branch B, the total result was £165 (sales) + £90 (wastage) + £1 (hygeine) = £256 approximately, without controls, and £110 + £3 = £113 approximately, with controls; but this was achieved in total by one participant only. At Branch C, there was no measurable benefit.

These results may be represented graphically, with the greatest near to the origin, as in figures 7:2 and 7:3.

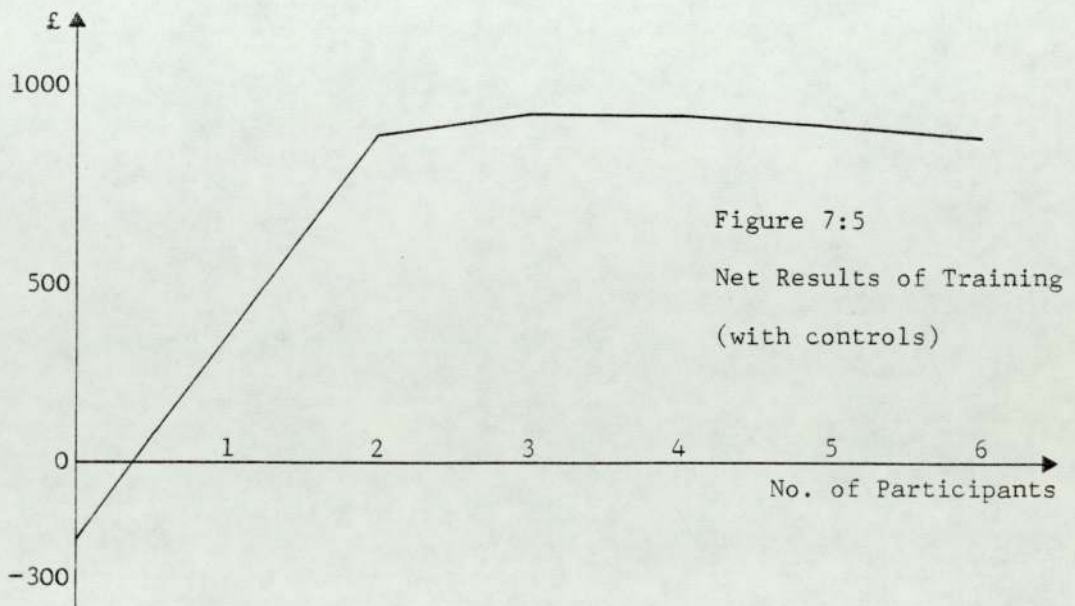
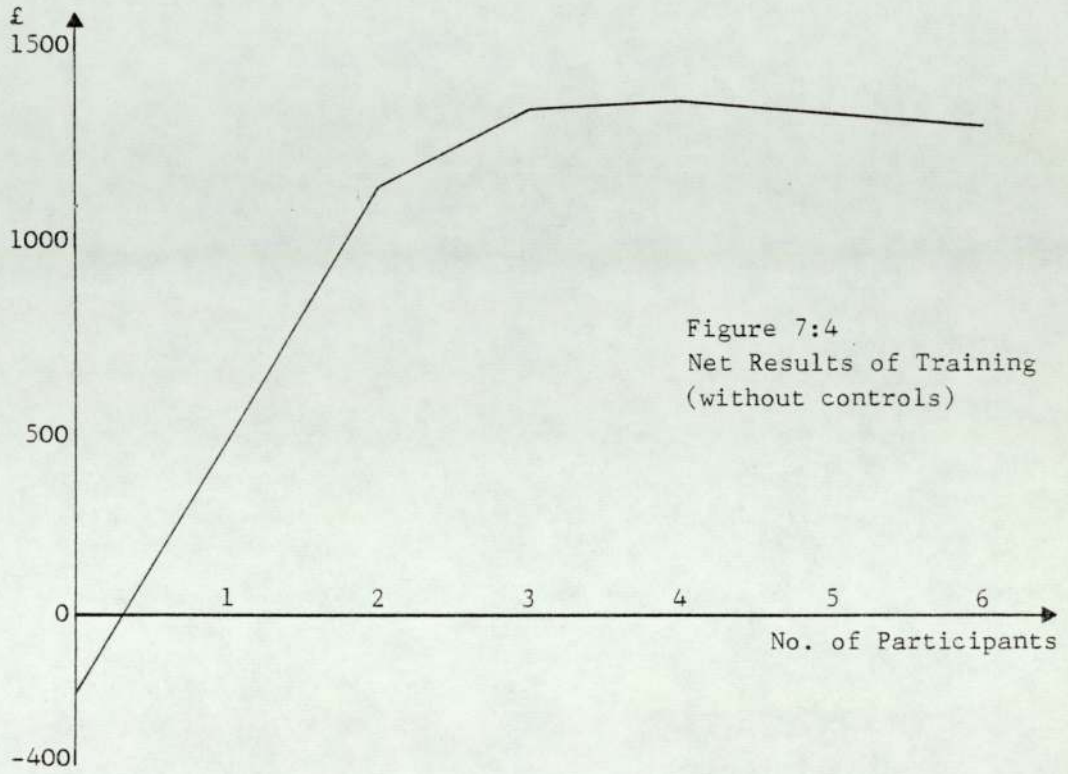
## 7.6. Comparison of Costs and Benefits

7.6.1. The costs in figure 7:1 may be deducted from the results in figures 7:2 and 7:3 to give the net result curves to be seen in figures 7:4 and 7:5.

Although the magnitude of the net results differs according to whether or not the controls are taken into account, the trend of these curves is identical. The maximum percentage return on







investment would have been achieved from training the two packers at Branch A (because the gradient between that point on the curve and the origin is tangential to the curve). The maximum net result would have been achieved from training only the three participants at Branch A and the relief butcher at Branch B (because the maximum point on the curve falls where those participants alone are trained). When more employees were trained, the proven result was negligible or nil, and thus the proven net result was negative; however, it was not negative by a great amount, so that the total net result for all the participants was still substantial (approximately £1300 without controls, and £870 with controls), and would have remained positive even if a large number of other participants had been trained to no positive result. The maximum theoretical number that might be trained with the training still breaking even is, at more than 25, so large that in fact the limiting factors are the questions of the space available and the need for individual attention from the course tutor.



## 7.7. Conclusions on Training

7.7.1. The assessment of costs and benefits shows that the training was worthwhile, and gives some indication of how much training might be appropriate in the future. With the cost of the course estimated at somewhat over £400, and the benefits in the first year at approximately twice as much (if controls are taken into account) or three times as much (if controls are not considered), the training justified itself as an investment.

7.7.2. In particular, the study suggests that there is little immediate gain from training participants who will have no opportunity or managerial encouragement to practice in bacon preparation, but that the benefits derived from those who do are sufficient to justify training a large number who do not.

CUSTOMER RELATIONS TRAINING IN A DEPARTMENT STORE

"I am one of those gentle ones that will use the devil himself with courtesy".

(Shakespeare, *Twelfth Night* 4.2.37)

*This chapter reports an exercise in evaluating a course, held for section managers in a department store, in good customer relations. Two methods were used to record results: managerial ratings and a personal log of major events. The results of these two are discussed, and it is noted that the participants' log was the more successful. From this, a financial estimate of benefits was reached, which was compared with the costs of training. It is concluded that the training was worthwhile, but more for some participants than others. Estimates are given of how many participants should be trained at a time, and how long they would need to stay with an employer to justify being trained.*

8.1. Type of Training

8.1.1. It has been noted (in 2.1.1.) that a particularly important field of skill in distributive jobs concerns customer contact, involving tasks such as sales and handling complaints. It was, therefore, decided to carry out an evaluation of training in this field, even though it was anticipated that this would not be easy. For one thing, the results of social skills are likely to be difficult to assess, and still more to measure. For another, the occurrence of incidents when such skills are



needed is irregular; Malt (1966) refers to "the periodicity of training" as a difficulty in measuring training results in the retail sector, and this is very much the sort of situation where such a problem might be expected.

The firm chosen for collaboration in this case study was one where this particular type of training was felt to be a problem. It was a company running a number of department stores throughout Britain, with a very good reputation for customer service, staff relations and value (Wood, 1975; Churchill & Macve, 1976). The shop in which the research took place was one of their largest, in Oxford Street, where a one-day session on customer relations was held. This consists of talks and discussions with a general manager of the store, and with management from the Goodwill Department, followed by case studies of incidents in customer relations, a film on controlling contact with customers, and general discussion.

These sessions are held approximately every 2 months, and at each there are between 6 and 10 participants. Three sessions were studied and assessed.

8.1.2. A total of 25 section managers participated in the three courses assessed. They represented 18 different departments (at the time of training, though some moved positions shortly after). Their length of service ranged from  $1\frac{1}{2}$  to 33 years, with a mean of about  $7\frac{1}{2}$  years, and a median of 5 years.

## 8.2. Criteria for Measurement

8.2.1. As the objectives of the training were largely in the field of social skills and attitude development, it was difficult to measure the results with any accuracy. The time-scale available was not large, and in addition the value of the training hung to some extent on the policy of the company, which stressed the value of good customer relations in terms of the added future revenue it was likely to provide. There was no evident way of measuring how many customers, satisfied by the high standard of service, patronised the store again; and still less how much extra revenue was derived from this.

However, it was decided that two specific assessments should be made: one of the competence of the participants before and after training, as assessed by their managers; the other of incidents that arose in customer relations, where the participant



himself felt that the training had affected his response to the incident. The first of these was seen as a check on the type of participant sent for training, and also as a possible means of relating apparent improvements in attitude and social skill to the benefits claimed for course by participants.

- 8.2.2. In collaboration with the training manager, a seven-point scale was designed. This gave seven examples, expressed in behavioural terms, of actions by a shop assistant which would indicate varying degrees of competence in customer relations. It is shown in Appendix 2.

The scale was based on an example given by Campbell, Dunnette, Lawler and Weick (1970), and by Dunnette (1970), of a rating scale designed for the Penney group of stores in the U.S.A. They constructed a number of nine-point scales consisting of paradigms of good, bad and indifferent behaviour, by asking managers for examples of typical employee behaviour of different degrees of excellence. These scales were used to obtain managerial ratings of subordinates, so that the effects of training and development could be measured by comparing ratings made at different points in the process. Campbell's study illustrates how investigations carried out on

one occasion can provide criteria by which subsequent training can be judged. It does not concern itself with the financial benefits of training, and for that reason was not mentioned in chapter 6; but it manages to show that practical criteria short of the cash return are available in an area which is expected to be difficult to measure. In the last of the three courses of the present study, managers were encouraged to add comments to the ratings, and that is the reason for the final word 'But ....' after each of the alternatives. This was added because experience from the first two courses suggested that management often wished to qualify the rating of an employee.

- 8.2.3. The course participants were asked to keep records of critical incidents that arose during their work which related to the subject of the course. Such a technique has been used in evaluating training previously, according to Hamblin (1974), but no record of its use in distribution is known. The types of incident to be recorded were complaints from a customer, whether about the standard of service, unsatisfactory goods, breakages, or whatever. A copy of the pro forma to be completed is also given in Appendix 2. After a few weeks the



participants were approached to discuss the incidents reported.

8.2.4. The hypothesis of training was thus taken as being that the participants would improve their manner of dealing with customers' problems, and that this would improve the store's financial performance. The hypothesis of evaluation was that the participants' improvement would be recorded satisfactorily by the managerial ratings, and that the participants' own logging would satisfactorily record the financial results of this.

### 8.3. Performance

8.3.1. It was planned that every manager of a participant should be given the rating pro forma to complete shortly before the course, and again some weeks later. In fact, this timing was not always exact, because of pressure of work on the training manager; and more important, problems such as absence and refusal to reply prevented an accurate before-and-after comparison in many cases. In total, only 10 of the 25 participants were assessed twice, 13 were assessed before (or immediately after) training only, one was assessed ten weeks after training only, and one was not assessed at all. While, therefore, the

exercise showed whether, in certain cases, management felt a change had occurred amongst their staff, it was of no use in assessing how much improvement there had been amongst participants, or where the greatest benefit had lain. While it did not suggest any major shortcomings (except in the interest of management in the exercise), it was far less valuable than the logging of incidents.

- 8.3.2. The participants reported 33 incidents in all (though one claimed that he had reported another 30, but that details of these had been sent to the Training Department and got lost in the post). Of these, 21 (63%) occurred within 2 weeks of training. This appears to indicate that the amount of involvement in evaluation that can be expected from participants is limited to a short period immediately after training.

#### 8.4. Costs

- 8.4.1. The total budget for the training department of the store at the time totalled £36,000 p.a., of which £28,320 comprised the remuneration of staff. Though the researcher was not given any further breakdown of this figure, it can be estimated that the payroll of the department was as follows:



Manager		@ £6120	£ 6120
Training Officers	4	@ £4050	£16200
Secretaries	2	@ £3000	<u>£ 6000</u>
			<u>£28320</u>

This total includes national insurance, etc, but excludes the annual staff bonus, subsidised meals, etc., which may be estimated at 10% of the above. The total staff cost to the store would therefore be about £31,150.

- 8.4.2. The remaining £7,680 of the department's budget consists largely of particular items of expenditure for specific (largely external) courses, although it does include the D.I.T.B. levy (if any) and sundry training aids, stationery, etc. Occupancy costs are not attributed to any departments in the company's systems, but are treated as a general charge on the whole store. Consequently, the proportion of these costs to be allocated to each course run is minimal. If an estimate of £850 is included, this brings the total estimate of the cost of internal courses in the store to £32,000 p.a.

From the annual training plan of the store, the number of training-days can be taken as approximately

265 p.a. On this basis, the cost of each day's training was  $\text{£}32,000 \div 265 = \text{£}121$ . The three days' training therefore cost an estimated  $\text{£}363$ .

8.4.3. In addition, note must be taken of the value of other staff time involved in the course. This was approximately:

General Manager	@ $\text{£}10,000$ p.a. x 6 hours	= $\text{£} 32.61$
Goodwill Dept. Managers	2 @ $\text{£} 4,000$ p.a. x 6 hours	= $\text{£} 20.07$
Participants - Section Mgrs.	25 @ $\text{£} 2,600$ p.a. x 1 day	= <u><math>\text{£}282.61</math></u>
		<u><math>\text{£}335.29</math></u>

If to this estimate is added a further 20% to cover employment overheads, the total value of staff time becomes approximately  $\text{£}410$ . This, when added to the cost of the training department, brings the estimated cost for the whole training to  $\text{£}773$ .

## 8.5. Benefits

8.5.1. An estimate was made of the total financial saving, or extra sales, from these 33 incidents. This amounted to  $\text{£}648$ . In addition, it was estimated that a further  $\text{£}437$  was spent as a result of the course, in that participants were more prepared to refund all or part of a purchase price, or to pay



for a customer's expenses, even where they felt the customer's request was unreasonable.

8.5.2. It is difficult to assess the implications for the company of spending this extra £437. There can be no doubt that this was a result intended by the training, since it is the company's policy that dissatisfied customers should be treated as generously as they request, in the belief that the good reputation this creates amply compensates the store. A satisfied customer will return to patronise the firm again; a discontented one will not. No method was devised to test this assertion; it would be difficult to imagine how this could be done, unless on a very substantial scale, which was not possible in this exercise. However, the experience of the company since the last century is the basis for this belief; and, since this policy is one of the foundations for the objectives of the training, it must, for the purposes of this evaluation, be assumed as correct.

Consequently, it was assumed that the outlay of £437 brought about, in the long run, increased sales of an equivalent amount. The same conclusion was applied to the extra time spent in dealing with

the incidents. This was estimated at about 22 hours, and valued at between £69 and £70.

These amounts were, therefore, added to the £648 estimated saving to give an assessment of the total benefit recorded from the training, of £1156.

- 8.5.3. However, this assessment needed to be adjusted according to two other factors, also reported by the participants. These were, first, whether the customer appeared satisfied, and secondly, whether the section manager's behaviour would have been the same if the course had not taken place.

Respondents were asked about the customer's apparent satisfaction, and in 85% of cases this appeared total. On a small number of occasions, on the other hand, this was not the case, and the assessment of £1156 was adjusted to compensate for this. This adjustment resulted in an estimated benefit of £923.

- 8.5.4. Respondents were then asked whether or not they felt their actions would have been different if they had not attended the course. This is perhaps the most crucial question involved in the



evaluation process, since only those incidents which were different can be considered to be true results of training. Difficulties existed in identifying suitable individuals to form a control group; and because the phenomena being studied over a short period were of a random, incidental nature - the "periodicity" of retailing - there was no apparent way of judging what would have happened in the absence of training. There is no reason to suppose that the sort of incidents that occurred to untrained section managers in the few weeks after the course would necessarily be equivalent to those that occurred to the trained participants; and the lack of good equivalence between the two groups would add to the inaccuracy. Thus it was felt that, for all its shortcomings, the method of actually asking respondents to identify the occurrences where there had been no change was likely to be the most accurate one.

A study of the incidents suggested that, in fact, a benefit of some £444 would have arisen from the incidents even if training had not taken place, so that the final benefit due to training was estimated at £923 - £444 = £479. This arose from 16

incidents, of which 12 (75%) occurred in the first two weeks after training.

8.5.5. In terms of methodology, the problem is now to assess what inference can be drawn from this approximate figure of £479. It might be argued that, since the interest of the participants in recording incidents clearly tails off fast, and perhaps can be measured only for two weeks, a two week estimate should be made, of 75% of £479 = £359.25 (this is, in fact, less than the estimate of the actual benefits in this two week period). Assuming a gross profit margin (on average) of 30%, which the store felt was reasonable, this suggests a benefit to the store after deducting the cost price of the goods, of  $£359.25 \times 30\% = £108$  in two weeks. If it could then be assumed that this benefit continued indefinitely, the benefit becomes  $£108 \times 26 = £2800$  p.a.

However, to suggest that the measured benefit of the course approximated to £2800 p.a. not only involves accepting all the above assumptions; it also presumes that the sort of incidents which occurred during the first two weeks after training



were equivalent to those which would occur during the rest of the year. This latter presumption comes dangerously near to the reservation made above about comparing incidents which occur to the trained group with those which occur to a control group.

Consequently, although the above method produces an estimate of benefits, it needs to be accompanied by other conclusions before it can be of use in planning where the emphasis of training should be. It is for this reason that the study of critical incidents was accompanied by a system of managerial assessments.

- 8.5.6. One of the main conclusions that was noticed from the exercise was that incidents were more likely to occur in some departments than in others. Some participants felt that, in their particular department, complaints were either very rare, or of such a routine nature that training was scarcely needed as guidance on how to deal with them (very often such incidents were not reported).

Departments where the training seemed to have particular value were jewellery and handbags,

where complaints were frequent, and radio/television, where large amounts of money were involved, even if the number of incidents was small. Other departments, of secondary importance, included furnishings and fabrics, carpets, china and glass, toys and ladies' suits. The departments where the training appeared of least value on this basis seemed to be hair-dressing, paper patterns and Ladybird clothes, where complaints were not common. The same applies to kitchen furniture, although it was felt that a hostile attitude to the subject of the training may have been involved here. Of the two section managers from the kitchen furniture department who attended the course, one was not rated at all by his manager; the other was given a low rating both before and after training. Whether this should be taken as a consequence of problems with the individuals trained, or with their departmental management, or with the suitability of the training for this department, is not clear. It was evident, however, that, unless circumstances changed, the benefits from training for this department would be severely limited.

An attempt was made to establish whether any connection existed between the value of the course,



in terms of critical incidents reported, and the length of service among participants. The results here were inconsistent. There was a small positive correlation between length of service and number of incidents reported ( $r = .24$ ); although, if only incidents where action was felt to have been changed were considered, there was a small negative correlation ( $r = -.23$ ). One might expect those with least experience to gain most, but the results show this is at least questionable, although the small size of the latter coefficient does not permit any firm conclusions.

## 8.6. Comparison of Costs and Benefits

8.6.1. If the estimates made above of the total costs and benefits are accepted, they can be used to draw further conclusions about the training. Thus the result of the course was estimated at £2,800 p.a., or £54 per week. By comparing this with the cost figure of £773, it might be argued that the cost of the training is justified after  $773 \div 54$  weeks, or slightly over 3 months.

8.6.2 Although this estimate is of little immediate use itself, it does provide more information on one

problem that was raised about the measurement of results: the question of whether the results noted in the period directly after training could be considered typical of those that would occur after an extended period of time - in other words, whether an extrapolation can be made from about 2 weeks to about a year.

The cost/benefit comparison allows us to restrict our concern, if we prefer, to 3-4 months from the training; for that is the period over which the results need to be maintained to justify the cost. A slightly longer period might be looked for to ensure a fair return on training investment, but the difference is not important. Even if a rate of return of 3% per month (which is substantial) is sought, this would still be provided in less than 4 months from training.

There can be no doubt that the vast majority of participants will be active for more than this 3-4 month period. As the median length of service among participants in the training was 5 years, it is evident that their future work with the store can be expected to be maintained for some years. In fact, unless the group were biased in



favour of staff with longer than average experience with the store (and there is no evidence for that), a 'half-life' of 5 years implies a turnover rate of less than 13% p.a., assuming that turnover is, in the long term, constant. With turnover of that order, between 95% and 97% of staff could be expected to remain in employment for longer than the 3-4 months calculated. In fact, all participants on the courses studied were still working at the store 3-4 months after training.

- 8.6.3. Next, the estimates of costs and results can be used to confirm that a satisfactory number of participants is being trained to make the exercise cost-effective, as well as that the results accrue within a short enough period after training to make the conclusion seem sensible, that the training provides net benefits.

The results were estimated at £2,800 p.a. for 25 participants; that is, at £112 p.a. per participant, or £28 per participant per quarter. However, it has to be remembered that, even assuming each participant's changed behaviour produces this result for the remainder of his employment at the

store, loss of staff will in the course of time reduce the benefit to the company. Hence the number of staff remaining at any time in the future needs to be considered.

Staff turnover has been estimated at less than 13%. However, if, to be conservative in estimating, we project an average future turnover rate of twice that, turnover can be put at 26% p.a.  $\approx$  6% per quarter. In other words, at the end of each quarter, only 94% of staff in employment three months earlier will remain. This percentage can be used as the probability that any participant 'x' will produce a benefit of £28 in quarter 'y', and a table can then be constructed to show the cumulative benefit over different lengths of time ( $y = 1$  to  $y = 8$ ) for training different numbers of participants ( $x = 1$  to  $x = 13$ ). This is Table 8.1, where  $b_y$  = benefit from each participant in quarter y,  $B_{1y_n}$  = cumulative benefit from each participant ( $= \sum_{y=1}^n B_y$ ) and  $B_{xy} = xB_{1y}$ , the cumulative benefit from x participants after n quarters.



Quarters (y)	Benefit (b <sub>y</sub> )	Cumulative Benefit (B <sub>xy</sub> ) for x Participants								
		x=1	x=2	x=3	x=4	x=5	x=6	x=12	x=13	
1	26.32	26.3	52.6	79	105.3	131.6	157.9	315.8	342.2	
2	24.74	51.1	102.1	153.1	204.2	255.3	306.4	612.8	665.1	
3	23.26	74.3	148.5	223	297.3	371.6	445.9	891.8	966.2	
4 (1 year)	21.86	96.2	192.4	288.5	384.7	480.9	577.1	1154.2	1250.3	
5	20.55	116.7	233.5	350.2	466.9	583.7	700.4	1400.8	1517.5	
6	19.32	136.1	272	408.2	544.3	680.4	816.3	1632.6	1769	
7	18.16	154.2	308.4	462.6	616.8	771.1	925.3	1850.6	2004.7	
8 (2 years)	17.07	171.3	342.6	513.8	685.1	856.4	1027.7	2055.4	2226.6	

Table 8:1 - Cumulative Benefits over y Quarters from x Participants

8.6.4. The costs of the training were estimated at £773. This was based on 25 participants trained in three separate sessions, and needs to be modified before an estimate of the cost of training different numbers of employees can be made. Each day of training costs £121 of training department resources; and in addition costs one third of the £52.68 (+ 20%) quoted above as the cost of the other instructors involved in each session, i.e., roughly £21. Each session therefore has a fixed cost of £142, however many participants attend.

The variable cost of training each participant is, from the figures quoted above, approximately £13.50. From this the total cost of training x participants can be calculated.

However, if the costs are to be compared with the benefits over an extended length of time, consideration must be given to the return expected from an investment over the period concerned. If, to cover inflation and interest rates elsewhere, this return is put at 6.7% per quarter (or roughly 30% p.a.) a table of costs (Table 8:2) can be constructed giving the cost ( $C_{xy}$ ) of training  $x$  participants as an investment over  $y$  quarters. Here  $C_{xy} = C_x \times 1.067^y$ , for  $x = 1$  to  $x = 13$ , and  $y = 1$  to  $y = 8$  (with  $C_x =$  actual cost of training  $x$  participants).

8.6.5. When these two tables are compared with each other, it can be seen that, for any number of participants between 5 and 12 (which each session of the training has, in practice), the benefits begin to exceed the cost between 3 and 6 months after training. These breakeven points are marked in heavy lines on each table, so that above these lines the costs exceed the benefits, while below them the benefits are greater. The points can also be seen graphically, for a number of different participants, in figure 8:1, where the curves of cost and benefits cross; each breakeven point is additionally shown where each



curve of net benefits cuts the zero line. The cost curves increase over time, reflecting the

Quarters (y)	Cost ( $C_{xy}$ ) of Training x Participants									
	x=0	x=1	x=2	x=3	x=4	x=5	x=6	x=12	x=13	
0	142	155.5	169	182.5	196	209.5	223	304	317.5	
1		165.9	180.3	194.7	209.1	223.5	237.9	324.4	338.8	
2		177	192.4	207.8	223.1	238.5	253.9	346.1	361.5	
3		188.9	205.3	221.7	238.1	254.5	270.9	369.3	385.7	
4 (1 year)		201.5	219.1	236.5	254	271.5	289	394	411.5	
5		215.1	233.7	252.4	271.1	289.7	308.4	420.4	439.1	
6		229.5	249.4	269.3	289.2	309.2	329.1	448.6	468.5	
7		244.8	266.1	287.4	308.6	329.9	351.1	478.7	499.9	
8 (2 years)		261.2	283.9	306.6	329.3	352	374.6	510.7	533.4	

Table 8:2 - Costs of Training x Participants Expressed as an Investment over y Quarters

compounded opportunity cost of investments foregone; while the benefit curves are subject to diminishing returns, as staff leave the store's employment. With only one participant, benefits cannot equal costs, and hence net benefits are always negative. This is a specific case of the general conclusion that the greater the number of participants, the greater the net benefit. From this same conclusion, it can be seen that cost/benefits from 13 participants would break even in slightly less than 3 months; this was considered about the maximum number that could be accommodated

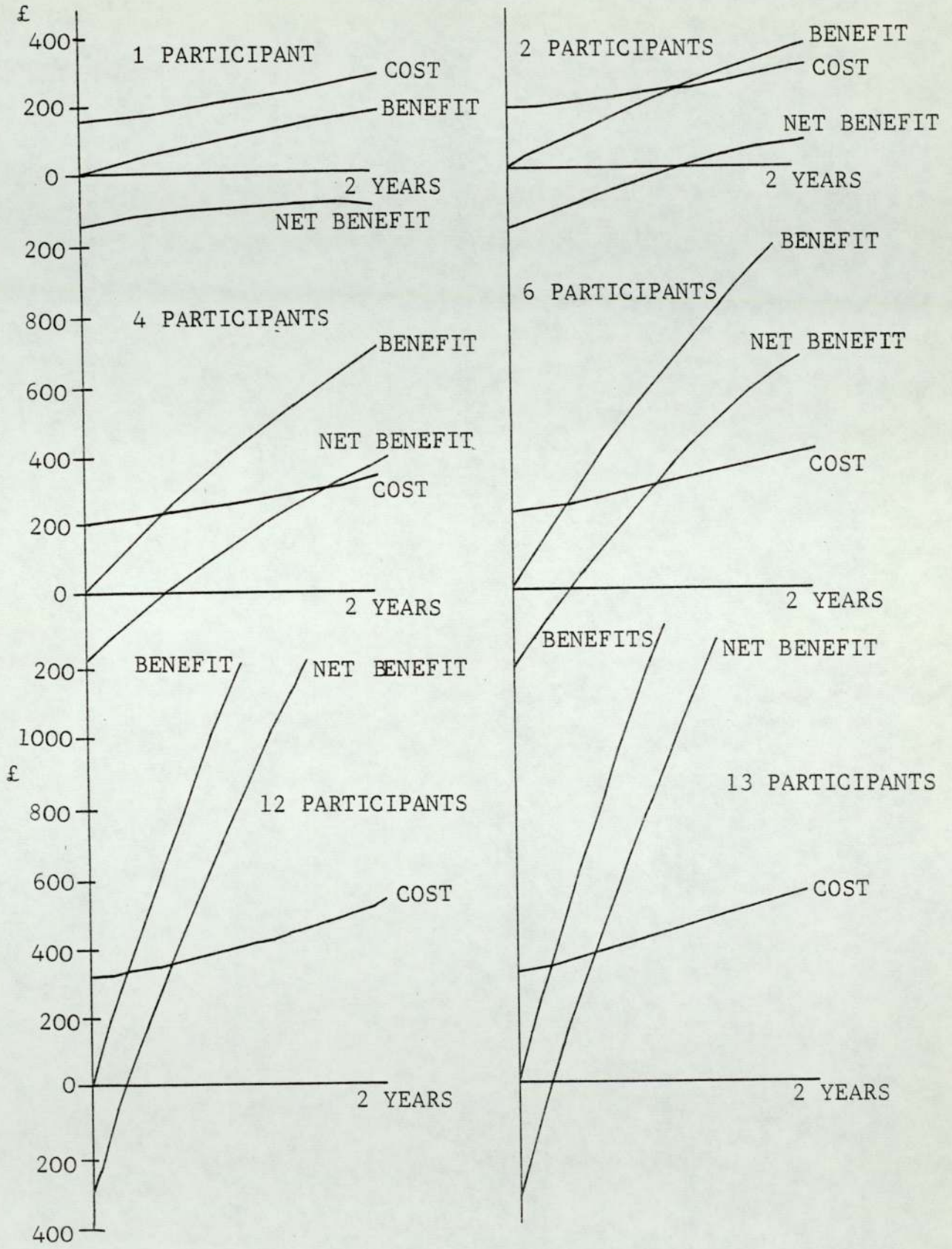
at one session, taking into account the space available. At the other extreme, the results from one single participant in a session would never justify the costs.

8.6.6. It is, of course, true, that both estimates (and especially that of benefits) are only approximate. However, the above calculation was carried out on deliberately conservative assumptions, so that any conclusion is not unduly optimistic. In particular:

- 1) The estimate of benefits includes only those results measured by the participants' own logging of critical incidents, and ignores those where no change was attributed to the training; it is to be hoped that the training had other beneficial effects.
  
- 2) The rate of return to be expected from the training investment was set at the somewhat high figure of 30%, this is appropriate, in view of the uncertain nature of the results of training.



FIGURE 8:1



- 3) The rate of staff turnover was set at 26%; if this really applied, the distribution of length of employment among participants studied would have been most unusual, and so the real long-term turnover rate can be expected to be much less.

### 8.7. Conclusions on Training

- 8.7.1. In view of this, it can be concluded that, with costs and results of the order estimated, it is feasible to train from 6 to 12 participants in a session, and to expect the training to have justified the investment and produced a fair return on capital, within at the most six months.
- 8.7.2. In addition, it seems that staff in some departments are more worth training than those in others. This is an example of the application of Pareto's Law, that a small fraction of elements out of the total to be controlled will account for a large proportion of the effect. This principle has been applied in many management fields (Scharf, 1973 a, b, c; Reuter, 1976), including sales (Cole & Posner, 1970). It is perhaps not surprising that it has relevance also in the effects of sales training.



Note: The techniques described in this chapter were designed in collaboration with training officers from the company concerned; all data collection and analysis was the work of the researcher alone.

MANAGEMENT DEVELOPMENT AT A MULTIPLE WHOLESALE AND RETAIL COMPANY.

"I have expended much time and capital upon improvements of the living machinery; and it will soon appear that time and money....., even while such improvements are in progress only, and but half their beneficial effects attained, are now producing a return exceeding fifty per cent, and will shortly create profits equal to cent per cent on the original capital expended in them".

(Robert Owen, *A New View of Society*)

*This chapter describes the evaluation as human assets of the staff of a multiple company, and compares it with the costs of running courses at the company's training centre. It is noted that the value of the staff to the company is greatly in excess of the cost of training them, and, on the assumption that some training is worthwhile, the minimum proportion of staff is assessed for whom training can be justified. The exercise is described for courses at three different levels of development. One of the conclusions is that such an exercise needs to be accompanied by a course validation, and the responses of participants and (to a lesser extent) their managers are described. This permitted various weaknesses in the training to be identified, many of them concerned with the relationship between training and the job.*

9.1. Type of Training

9.1.1. A number of methods have been developed (and, in a few cases, used) to measure the value of employees as assets of their firm, rather than as an item of expenditure. These take a number of forms, described generally by such names as 'human resource



accounting'. According to Morse (1976), the field can be divided into two parts: human asset accounting, which deals with the value of staff to the employer; and human capital accounting, concerned with the value of investments such as training to the employees themselves.

In the present research it was resolved that value to the employer is the main consideration (see 3.1.2. supra), and the role of training in contributing to this value has been stressed by various proponents of human asset accounting, not least by Giles and Robinson (1972) in their report to the Institutes of Personnel Management and of Cost and Management Accountants in Great Britain. They recommend a system which involves a "multiplier" for recruitment, training and other costs; this multiplier, which varies between grades of staff, is meant to reflect the relative contribution of different grades to the firm, and hence, when multiplied by the costs, indicates the added value of human assets. One problem, however, which they and many other writers do not seem to appreciate, is that, while the quantity of training expenditure may be justified by such a method, it does little to show that the quality of the training contributed to the firm's success.

9.1.2. This is, in fact, only one of many types of human asset accounting, a number of which lay claim to providing a justification of training. Douthat (1970), for example, actually describes a graphical model comparing training investment with benefits in the form of cash savings, although his scheme involves a measurement of programme effectiveness along the horizontal axis, rather than the amount of training as in the present research. Giles' and Robinson's system is sometimes described as an 'historical cost' theory (Savich & Ehrenreich, 1976), because such models, which seem to be the most common ones in human resource accounting, base their calculations on money expended to bring staff to their present value.

Other types of model include 'replacement cost', which estimates the resources needed to replace present staff, if they should leave for any reason; and the 'present value of future earnings' type (Baker, 1974). The latter, which has been developed by Lev and others (Lev & Schwartz, 1971; Friedman & Lev, 1974), looks at the likely future earnings of staff, applies a discount rate to render them in terms of their present value, and treats the result as an estimate of the employees' capital value. This, as Lev and Schwartz point out, seems a possible way



of getting round the problem which has been raised (Works Management, 1975), of how a value can be placed on an individual. In this case the value is placed on a group, and future earnings are taken as the best (though doubtless imperfect) assessment of the group's contribution to the firm.

Morse (1975) has developed the 'future earnings' scheme into a Markov model to predict the future careers of staff at various levels, and this type of model was adapted in the present research to be applicable to the situation of a multiple distributive company, as no recorded instance of human asset accounting in this industry is known.

- 9.1.3. The firm, a well-known company running a chain of high street booksellers and newsagents (as well as a wholesale news distribution service) have a training centre in Oxfordshire, catering for all levels of retail and wholesale management. The study of activities at this centre is concerned largely with those on the retail side (although there is no reason to suppose that consideration of wholesale staff would reach very different conclusions), and specifically with management up to the level of area manager.

9.1.4. As a sample of the general management programmes, one Introduction to Management course was observed. The participants on this course were 17 in number: 12 department managers grade 3 or 4, 2 assistant managers grade 3 or 4, and 3 assistant or department managers grade 1 (or the equivalent). The grading structure at the time was in the process of changing, and thus it was difficult to state exactly the relative status of the participants; but, from details of grades and salaries given, it was felt that they could be classified into the three groups just mentioned. The average salaries of these groups were then:

AM I AND DM I	£3583
AM III/IV	£2346
DM III/IV	£2269

## 9.2. Criteria for Measurement

9.2.1. A preliminary study had been carried out on one of the specific courses on the wholesale side, and it was clear that the direct measurement of results would have been extremely difficult, if not impossible. This was first because the training was of a type where the results are intended to be long-term, as the young employees' careers develop, and as they motivate the staff they manage. It had been found (see 2.5.2., supra) that the objectives and subject



matter were too imprecise to permit any detailed isolation of results. A second reason lay in the sparse nature of the records which, it had been hoped, might permit some assessment of any improvement in job performance. In particular, managerial ratings were made of employees, and it was hoped that improvements in these might be correlated with training. In fact, it transpired that so many of these ratings were not completed, or were not preserved for more than a year or so, that no accurate picture of managerial assessments could be drawn.

9.2.2. Consequently, it was decided to assess the costs of training as accurately as the company's records permitted, and then to attempt justifying training by other means. The method chosen was to assess the human asset value of the staff in the relevant grades, in terms of their estimated future earnings. This was intended to show the worth of the employees to the company, which could be compared with the amount invested in training them. To find this value, an estimate had to be made of the future career patterns of employees, as well as their rate of leaving the company. So an exercise was carried out to study movement into and out of the various grades during the most recent year for which data were available. Employees in April 1975 were identified by grade,

and their positions in April 1976 were then discovered. In view of the problems already mentioned about changes in grading structure, the grades were grouped into 10 classes. From this exercise a table was drawn up of the probabilities of an employee in a given grade in 1975 being in a given grade in 1976 (see Table 9:1). On the assumption that movement of staff would follow a similar pattern in the future, this table was used to predict such movement. This Markov-type model was run until probable career paths were predicted for all employees in the appropriate grades, for eight years into the future.

One problem here was that the main source of information was the managerial assessments, which had already been found to be inadequate. It was felt, however, that they gave enough information to show the career pattern over the year in question (the most recent year, for which records were the most complete) for a number of employees substantial enough to represent the total, especially when supported by an investigation of the computerised staff lists in specific cases. It is possible that the methodology resulted in a slight underestimate of the number of staff leaving the company, but this was not thought to be great.



TABLE 9:1 Probabilities of Staff Movement

		Branch Managers				E/F Asst		Asst DM			
		A	B	C	D	Asst I	Asst II	DM III/IV	DM III/IV	LEFT	
		A.M.				DM I	DM II	IV	IV		
Area Manager		89.5	5.3							5.3	
Branch Manager	A		96.4							3.6	
	B		13	73.9	1.5	1.5	2.9		1.5	5.8	
	C		1.5	2.9	88.2		5.9			1.5	
	D				4.5	87.9	3			4.5	
Asst. Mgr. I Dept. Mgr I	E, F										
				2.3	1.8	1.4	88.7			5.9	
Asst. Mgr. II						15.8	78.9			5.3	
Dept. Mgr. II						14.9		76.6		8.5	
Asst. Mgr III,IV					2.9	1.9	2.9		78.1	4.8	9.5
Dept. Mgr. III,IV						4.8	.8	6.9	1.6	75.4	10.5
Position in 1975		Position in 1976									

Note: The above figures are expressed as percentages. The average number of leavers was just over 7% per annum, on which basis half the staff would have left after approximately 8 years (not taking into account diminishing turnover due to promotion). For this reason, the model was 'run' for 8 years, by allocating a relationship between a 1975 and a 1976 position to every number between 000 and 999, and reading off values from a table of random numbers.

The value of the mean annual salary for each group was then calculated, and the predicted career paths were evaluated for the next eight years.

- 9.2.3. The hypothesis of this evaluation was that the method would provide a valid comparison between costs and staff value by giving an estimate of both, and would thus test the hypothesis of training, that the cost of training was justified by the total value of staff as an asset to the company.

### 9.3. Costs

- 9.3.1. The costs of running the training centre were well known, although some problems existed in distinguishing those attributable to training from those of other staff departments. However, a notional breakdown was made in agreement with the bursar, which resulted in an estimated fixed cost for an eight day course of £2312. In addition, a marginal cost for the specific course in Introduction to Management was estimated for each additional participant trained; this varied from £147 to £207, depending on grade. Details of these costs are as follows:



	Budgetted Costs 1976/77	∴ 180 days p.a.	∴ 4 courses per day
Total occupation costs	£78,000		
LESS Staff departments' share	£17,000		
Training dept.'s occupation	£61,000	£338.90	£84.75
Administration	35,100	195	48.75
Miscellaneous (laundry, etc.)	10,180	56.60	14.15
Instruction	90,090	500.50	125.10
Management overheads	11,700	65	16.25
	<u>208,070</u>	<u>1156</u>	<u>289</u>

The fixed cost is therefore estimated at £289 per course per day.

Salary: On the course costed there were 17 participants, earning:

12 @ £10 per day (= £50 per 5 days)  
 2 @ £10.25 per day (= £51.25 per 5 days)  
 3 @ £15.50 per day (= £77.50 per 5 days)

National Insurance: 8½% of salaries, i.e.,

12 @ 85p per day (= £ 4.25 per 5 days)  
 2 @ 87p per day (= £ 4.35 per 5 days)  
 3 @ £ 1.32 per day (= £6.60 per 5 days)

Expenses (travel): Train (average of 115 miles each way)

£9.20 per head

Taxis: £2.00 per head

Total expenses per week: £11.20 per head

Food: £2 per head per day (= £8 per head per 4 days)

The above comprise the variable costs.

Assuming a course of 2 weeks of 4 days, the normal length at the training centre, with the other two half days each week spent in travelling, total costs are:

fixed: £289 x 8	= £2312
3 participants @ £155 + £13.20 + £22.40 + £16	= £619.80
2 @ £102.50 + £8.70 + £22.40 + £16	= £229.20
12 @ £100 + £8.50 + £22.40 + £16	= £1762.80

Therefore, once the training centre is running, the cost of

training -	0 participants is	£2312
	the first three is	£2931.80
	the first five is	£3231
	all 17 is	£4993.80

The cost per head of this course was thus £4994 ÷ 17, or about £294. The costs are represented graphically in figure 9:1.

9.3.2. A similar exercise was carried out to assess the likely costs of the two other general management courses, for Branch Management and Senior Management.



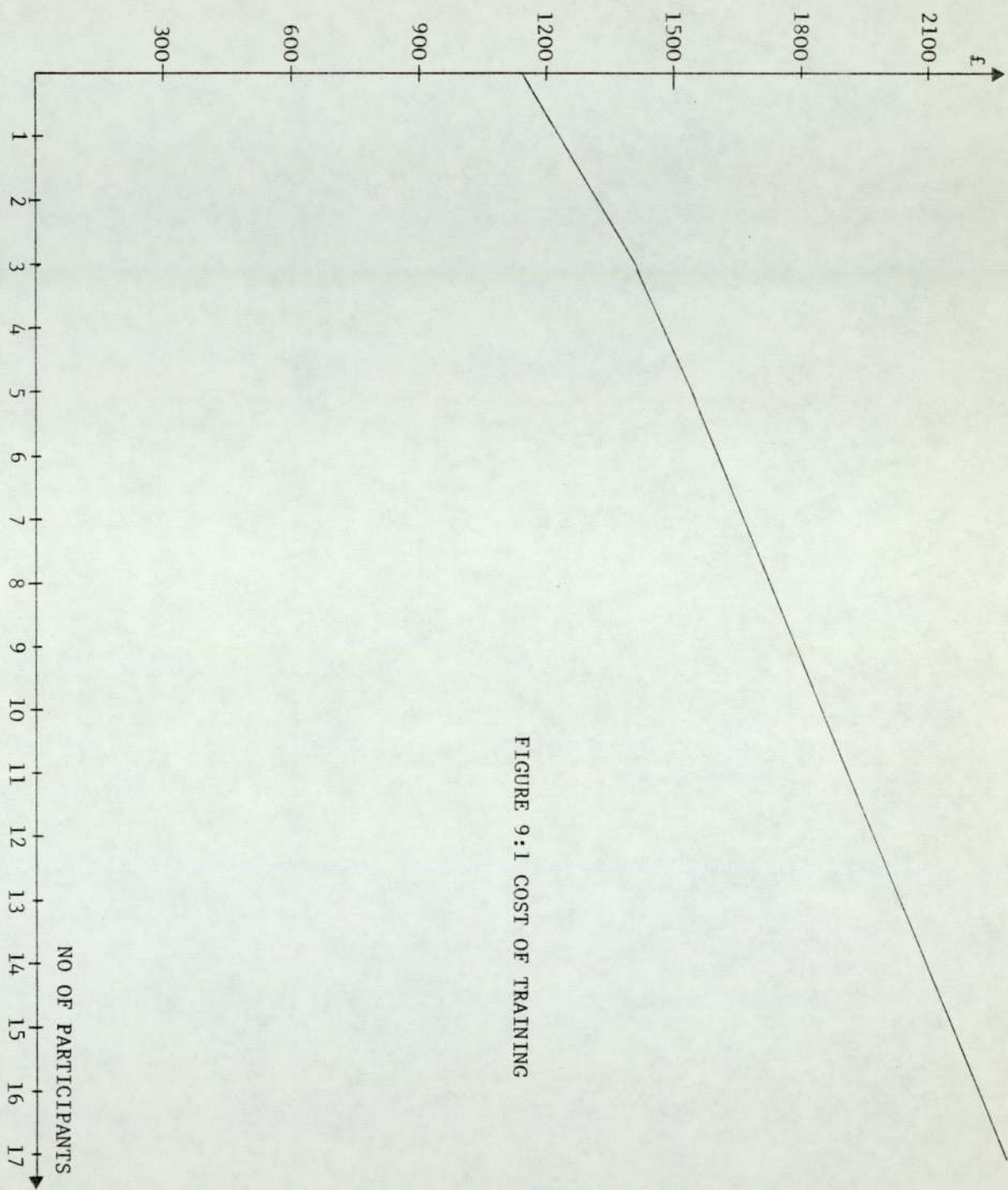


FIGURE 9:1 COST OF TRAINING

In the case of Branch Management, the assessment was as follows:

Salary: 3 @ £5722 p.a. or £250 per 10 days  
3 @ £4890 p.a. or £212.50 per 10 days  
11 @ £3583 p.a. or £155 per 10 days

National Insurance: 8½% of salaries, i.e.

3 @ £21.25 per 10 days  
3 @ £18.00 per 10 days  
11 @ £13.25 per 10 days

Fixed costs, expenses and food are as above.

Thus total costs are:

fixed: £289 x 8	= £2312
3 participants @ £250 + £21.25 + £22.40 + £16	= £929
3 @ £212.50 + £18 + £22.40 + £16	= £807
11 @ £155 + £13.25 + £22.40 + £16	= £2273

Therefore, once the training centre is running, the cost of training -

0 participants	is	£2312
the first three	is	£3241
the first six	is	£4048
all 17	is	£6321

The cost per head for 17 participants would thus be about £372.



9.3.3. In the case of Senior Management, the assessment was:

Salary: 3 @ £7384 p.a. or £481.50 per 15 days

3 @ £6553 p.a. or £427.40 per 15 days

11 @ £5722 p.a. or £373.20 per 15 days

National Insurance: 8½% of salaries, i.e.,

3 @ £40.90 per 15 days

3 @ £36.30 per 15 days

11 @ £31.70 per 15 days

Fixed costs, expenses and food are as above, with the exception that this course lasts typically for three weeks instead of two.

Thus total costs are:

fixed: £289 x 12 = £3468

3 participants @ £481.50 + £40.90 + £33.60 +  
£24 = £1740

3 @ £427.40 + £36.30 + £33.60 + £24 = £1564

11 @ £373.20 + £31.70 + £33.60 + £24 = £5088

Therefore, once the training centre is running, the cost of training -

0 participants is £3468

the first three is £5208

the first six is £6772

all 17 is £11860

The cost per head for 17 participants would thus be about £698.

#### 9.4. Results

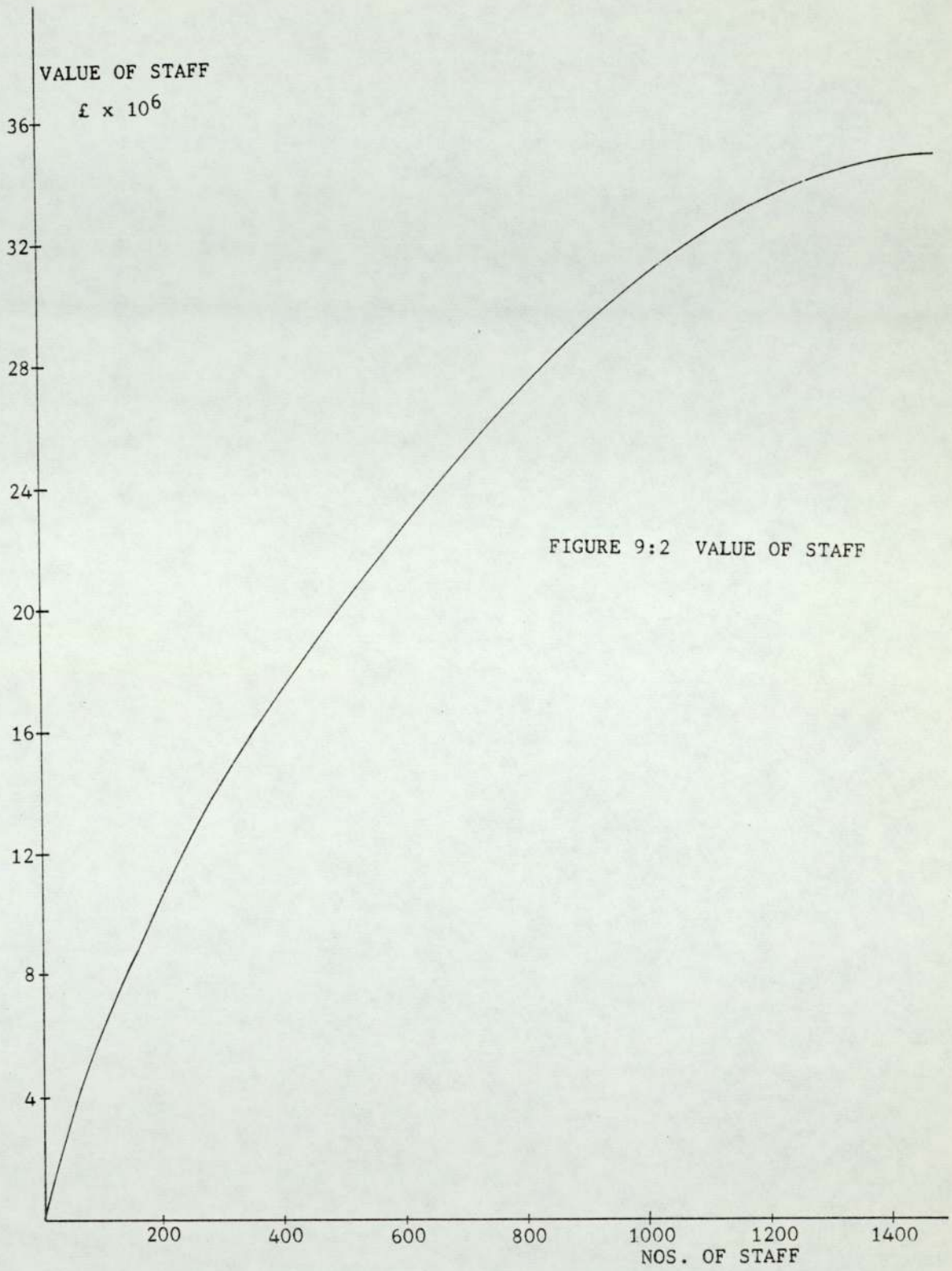
- 9.4.1. The values attributed to each member of staff were represented graphically, in order of decreasing amount; thus a curve of diminishing returns was obtained (see figure 9:2).

As a result of this exercise, it was estimated that the value of the staff in the relevant grades was almost £35,000,000 over the next 8 years, an average of £4,350,000 approximately per annum, or £23,600 approximately per head over 8 years. This itself can arguably be compared favourably with the average cost of each R.I.M. course, at about £294 per head.

- 9.4.2. The same exercise was then carried out, giving present values of staff by discounting their future earnings at a rate of 15% p.a. On this calculation the total value of all staff in the relevant grades was almost £23,000,000 over 8 years, an average of £2,850,000 approximately per annum, or £15,500 approximately per head over 8 years.

Next, the exercise was carried out on the discounted future earnings of staff of grades D M I, A M I, Branch and Area Manager, at the same discount rate. The total value of these 602 staff was just over





£13,800,000 over 8 years, and average of £1,750,000 approximately per annum, or £23,000 approximately per head over 8 years. The staff in these grades were taken as representing the present and future positions of those likely to participate in the Branch Management courses.

Finally, the exercise was carried out on the discounted future earnings of staff of grades for managing C, B, and A branches (that is, the larger ones) and area management, again at a discount rate of 15%. The total value of these 229 staff was just under £7,000,000 over 8 years, an average of £870,000 approximately per annum, or £30,000 approximately per head over eight years, an average of £870,000 approximately per annum, or £30,000 approximately per head over eight years. The staff in these grades were taken as representing the present and future positions of those likely to participate in Senior Management courses.

- 9.4.3. Another exercise was carried out, as a back-up to check that there were no glaring shortcomings in the validity of the training. The manager of 10 of the participants were interviewed in advance of the course, and all participants were interviewed either in advance or at the start of training. This was



difficult to arrange, because so many employees on the list of participants provided for the course, withdrew in the last few days, and were in some cases replaced by others from the same or another branch. However, a number of interviews large enough to provide an indication of opinions was a range of expectations about where different individuals might usefully developed. A common view was that the participants would benefit generally from a chance to re-assess their work off-the-job, and from meeting others in similar positions elsewhere.

- 9.4.4. After the course, each participant was sent a questionnaire to complete (see appendix 3). Of the 17 sent out, 11 were returned. In answer to the first question, the six aspects of the manager's job selected (on the basis of the course objectives and of the expectations noted) were, it was felt, treated with the following success (note: 5 = very good, 4 = good, 3 = fair, 2 = poor, 1 = very poor):

	Highest rating	Lowest rating	Median	Mean
Financial information and control statistics	5	4	4	4.36
Planning work	5	4	4	4.18
Salesmanship and handling complaints	4	3	3	3.45
Staff problems	5	3	4	3.91
Stock control	4	1	3	3
Recruitment and interviewing	5	2	3	3.36

Thus the general rating for stock control was 'fair', and for all the others was higher.

In answer to the second question, which was designed to enquire after the fields in which each participant had looked towards his own development, all the answers received replied that they had been at least 'half right' in their expectations in every case, and the majority (8 out of 14) were 'wholly right'. The third question, designed from each participant's 'action plan' to enquire after the action each hoped to carry out, was in general answered favourably, with the exception of staff interviews and budgetting.

The open questions put to participants produced a variety of answers. These were generally favourable, although in one case the participant felt the course was not suitable for her, because of her job as a



buyer rather than in retail selling. Other comments of a critical nature included poor 'follow-up', and weakness in marketing and stock control (the latter was also rated the poorest of the aspects treated by the course in question 1).

#### 9.5. Comparison of Costs and Results

- 9.5.1. In the absence of evidence to the contrary, it may be possible to assume that the financial results of training are greatest in employees with the careers which last longest and attain the most senior posts. In other words, the results are proportional to the value of the employees as human assets. If this assumption is made, the curve of diminishing returns can be considered to be equivalent to a curve of results of training. The problem is, however, to compare these results in some manner with the costs of training to assess how much training is worthwhile; because there is no way in which the absolute size of the financial results of training can be stated.
- 9.5.2. One method of making this comparison is to assume neutral net results - that is, to assume, as the most conservative estimate, that there is an amount of training where the results are exactly equivalent to costs, but not to assume that any amount

of training exists which gives a positive return. Naturally, it is hoped that at least some amounts of training do give a positive return; but this assumption approaches the results in the most cautious manner.

Once this assumption is made, cost and result curves can be superimposed as in figure 9:3. In this figure, the scales on the y-axis are designed so that the result curve is under the cost curve throughout, except at one breakeven point where they are tangential; at this point on the x-axis the value of the net result curve (which is the difference between costs and results) is zero.

The scales on the x-axis are designed so that the two curves reach their ultimate value at the same point along this axis, thus ensuring

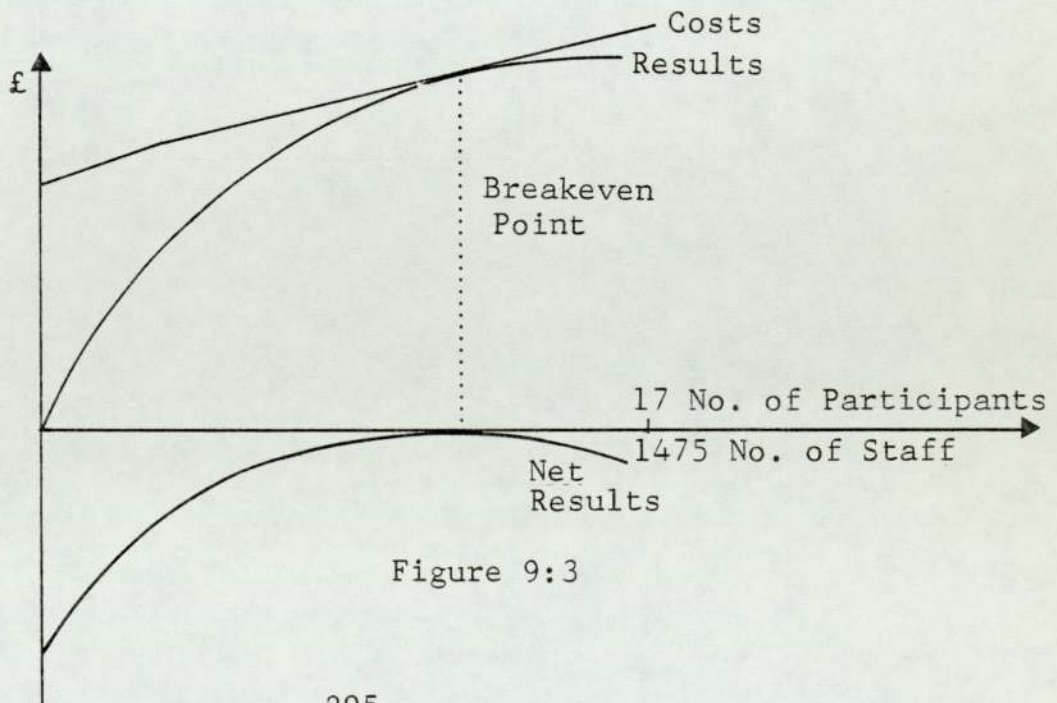


Figure 9:3



that the relationship on the cost curve between the fixed and marginal costs of training is preserved over the whole range of the staff whose value is being assessed. This is based on an assumption that, with the course observed being typical of the training carried out, the relationship between fixed and marginal costs would be the same if all 1475 staff were trained as it was for the 17 on this course.

9.5.3. Once comparison is made between costs and staff value, it can be argued that, assuming some training is to be carried out, it is certainly worth training staff up to the breakeven point. It may well be worth doing more, but this cannot be demonstrated where the conservative assumption of neutral net results is made. The breakeven point occurs where the rate of marginal increase in staff value (consideration as a proportion of the total value) is equal to the rate of marginal increase in cost.

The value of this breakeven point may be found by superimposing the two curves with different y-axis scales until such a point occurs. On doing this, it was found that the point occurred approximately where 1115 of the total staff were trained, in the case of the raw values of the total staff. In the case of the discounted values, the point occurred approximately

where 1207 were trained.

As far as the comparison for the other two courses were concerned, the breakeven point occurred at approximately 516 staff for the Branch Management training, and at approximately 200 staff for the Senior Management training.

9.5.4. In other words, if any training at all was to be carried out, then at very least the most valuable staff up to the numbers calculated should be trained. Of the total of all 1475 employees, the 1115 is some 76% and the 1207 some 82%. This suggests that the number whose training is justified is higher if discounted values are taken. Since discounted values are a more cautious estimate of the worth of staff, it seems appropriate to use these.

Of the total of the 602 staff in the grades studied for the Retail Management courses, the breakeven point of 516 staff represented 86%. Lastly, of the total of 229 staff in the grades studied for the Senior Management courses, the breakdown point of 200 staff represented 87%.



The conclusion of this evaluation is thus that the number of staff worth training was, at very least , in excess of 80% for all courses, and was slightly higher for the more senior courses.

#### 9.6. Conclusion on Training

- 9.6.1. The costs of running a Retail Introduction to Management course were roughly £2300 (fixed cost) plus from £145 to £210 per participant, depending on grade; for a typical 17 participants, the total cost is thus some £5000. On a similar basis, the total cost of a Branch Management course is some £6300, and a Senior Management course some £12000.

The value of all staff between department manager was estimated at almost £35 million over 8 years, or some £23600 per head. When a similar exercise was carried out on a discounted cash flow basis, a value of £23 million was produced over 8 years, or £15500 per head, for all staff considered; of £13.8 million or £23000 per head, for all staff of grades DM I, AM I, branch and area managers; and of £7 million or £30000 per head, for C branch managers and above.

9.6.2. The value of staff thus greatly exceeds the amount spent on training. When costs and value were compared, it appeared that their value amply justified the training, at least for some 80% of the staff. There was, however, no way of relating staff value to specific results of training; this will be discussed in 13.1.4. *infra*.

When participants on the R.I.M. course were asked to give their views on the training, their reactions were generally favourable. The main reservations appeared to relate to the interface between training and the job.



SALES TRAINING IN A MULTIPLE FURNITURE RETAILER

"We trained hard, but every time we were beginning to form up into teams we would be re-organised ..... We tend to meet any new situation by re-organising, and it can be a wonderful method for creating the illusion of progress while producing confusion, inefficiency and demoralisation."

(Petronius Arbiter)

*This chapter deals with approaches designed to evaluate the results of sessions in selling skills for furniture salesmen. Although the research design appeared satisfactory, changes in the training itself prevented any detailed analysis from being carried out. However, it was possible to establish costs, and to show how these might have been compared with the benefits of training, had measurement been feasible. This comparison suggests how the model of costs and benefits might be extended to assess different types of training, as well as different quantities.*

10.1. Types of Training

10.1.1. Salesmanship is one of the customer contact skills which are perhaps as near to being distinctively distributive as any skills are. A certain amount of research has been carried out into the value of training in these skills at the job performance level (Campbell et al., 1970); this validation has been mentioned in 8.2.2., supra. It seems only recently, however, that any attempt has been made to assess whether cost/benefits in this area could be

measured; the work of Lewis and Steed (1977), described in 6.1.10., appears to be the first research in this particular field.

Preliminary results from Lewis and Steed, in a multiple shoe chain, suggested that training could have a beneficial effect on sales, provided it was supported by a positive management attitude.

It was considered that the results found in shoe retailing might be replicable in a multiple furnishers; and, with a view to assessing whether an appropriate methodology was available, investigations towards this were carried out.

- 10.1.2. The training was conducted over three consecutive days, mainly in the company's regional training centre in Birmingham. The instructor was a former salesman who had become a training officer, and four trainee salesmen participated. The participants had all joined the company between 3 and 6 months previously.

The first two days' training consisted of an introduction to the company and discussion on consumer law, various aspects of salesmanship and the paperwork involved. The third morning was



spent in a store, with discussion on selling points and techniques. Finally, the afternoon of the third day consisted of a review of the course, with a recapitulation of various major points.

10.1.3. This course format was based on previous training within the company. It had, however, been modified into a number of modules, so that training could take place in different amounts, or could be adapted according to the experience of the participants. The course investigated covered 10 of the 14 modules, and it was intended that the same participants would in due course receive training in the remaining four.

## 10.2. Criteria for Measurement

10.2.1. Since the policy of the company dictated that all recruits be trained as soon as possible after starting work, it was not possible to compare the participants with other salesmen who would remain untrained. Again, it was not felt feasible to compare them with more experienced salesmen who, at the time of the course studied, would have benefited both from having been trained in other ways and from a period of practice on the job.

A comparison was anticipated, however, between the effects of training initially carried out (as just described), and the effects of training in the other four modules. The aim was that this second training should follow about two months after the first, though it seemed evident that pressure of work would require a longer interval.

- 10.2.2. A plan was established for the comparison to take two forms. The first consisted of a survey of the activities at work of two of the four trainees. A proforma was designed (see Appendix 4), to record details of the customer contacts which a salesman had during the course of a specified time. This would record the number of customers, their sex, their length of stay in the store, the nature of their enquiry, their attitude; the techniques used by the salesman to approach the sale and to overcome objections; and the nature of the resulting sale (if any). The proforma was to be used by the researcher to monitor the activity of one salesman at a time over the course of two weeks following each element of training; so that differences following the two elements could be compared.

The second comparison was designed as an assessment of the sales achieved by participants before



training, between the two elements of training and after completion of the second element. Sales of all staff were recorded by the company both for reasons of personal appraisal and for payment of commission, and it was intended to investigate any changes in performance by all staff. Discussions took place on the problems of distinguishing the results of training from those of increasing experience; no conclusive techniques were designed for this purpose, because of the circumstances which forced the experimental design to be changed.

- 10.2.3. The hypothesis of the training in the study was that, after the course, the participants would generate sufficiently more sales to justify the cost of the training. From this, the evaluation hypothesis was that the two methods just described would measure the sales involved satisfactorily.

### 10.3. Performance of Participants

- 10.3.1. The four course participants worked at three different branches of the company. The branch where two were employed was considered the most suitable for observation on the job because of its size and location. This also permitted two of the participants to be studied without the need to change

the site of the research. In addition, one of the other two salesmen trained were dismissed from the company within six weeks of training, a fact of some importance when the cost/benefits of the course are to be considered.

The two participants were observed during eleven half days of trading, and records were kept, on the proformas designed, of all customer contact.

- 10.3.2. The results of this survey, which are given in appendix 4, were not generally of great value. A certain pattern of customer flow was confirmed, with numbers at their greatest in the early afternoon and on Saturday. While women were slightly more likely to make a purchase than men, the highest conversion rate (that is, successful sales as a percentage of customers served) occurred when a man and a woman were shopping together. There was no relationship between conversion rate and time of the day or week; this confirmed one of the findings of Lewis et al. in shoe retailing.

One result that was striking was that the amount of time devoted to serving customers was estimated at no more than 32%. More generally, the observations suggested that the situation on the job did not



reflect the ideal portrayed in training; many techniques for selling and overcoming objections were taught but were never seen in use during the observations. It was not clear whether this was due to a poor assessment of on-the-job conditions or to a shortcoming of the instruction; but, in either case, it implied a failure of the training to achieve its objectives at the job behaviour level.

- 10.3.3. The second element of training did not take place. The company changed its policy on sales training soon after the course studied, and a series of half-day sessions was planned for all salesmen, whether experienced or recently recruited. These sessions would have acted as further training for the three salesmen (the fourth had by then been dismissed) who participated in the original course.

So the research plan was redesigned. It was decided to carry out the same exercise of observation on the job, but after the series of sessions was completed; although it was clear that, since the new training was not designed to complement the old, comparisons between them would be difficult. It was also decided to pursue the comparison of sales which had

not yet been carried out at all; and to apply it to the effects of the different sessions in the new series, and to the effects of training staff of different experience.

- 10.3.4. The staff to be trained in the training centre were divided into five groups, largely according to experience with the firm. The plan was for each group to take part in the session of training every two or three weeks until it had participated in five sessions in all. It was hypothesised that, if the training had any effect on improving sales, this would be shown by changes in sales made by participants after each session (once these changes had been adjusted to exclude the results of other factors by investigating changes in sales generally in the firm's stores). It was conjectured that this would produce a pattern of results from training for each of the five groups (see the example in fig. 10:1) and that this pattern might vary according to the experience of the group members.



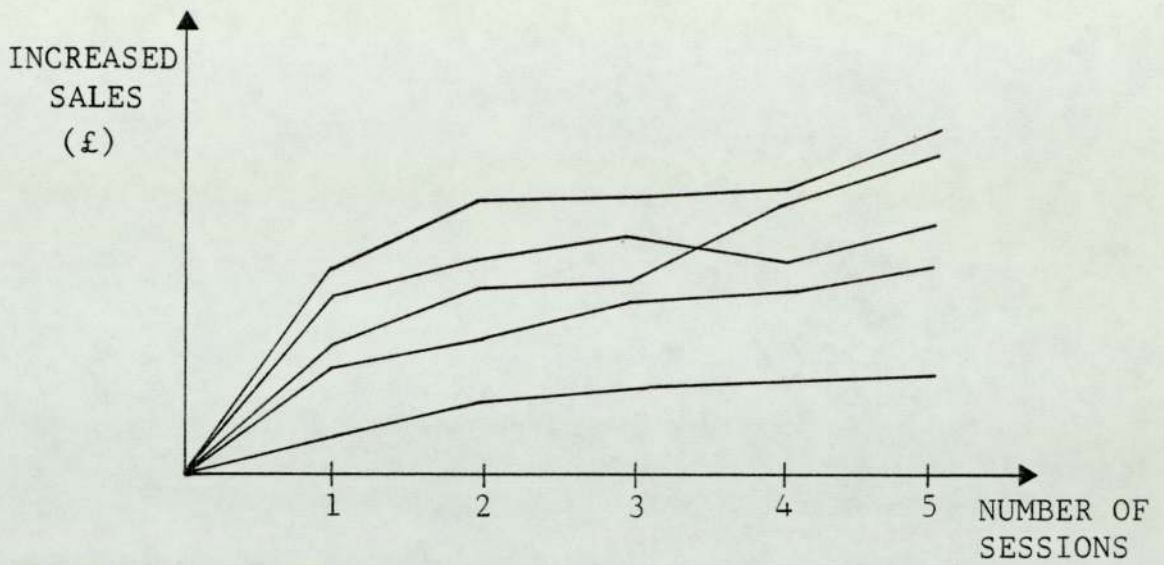


Figure 10:1

10.3.5. Against this assessment of benefits it was planned to measure the cost of training each group for a number of different sessions. Had this proved possible, it might have been feasible to estimate for how much of the training the benefits exceeded the costs, and whether the optimum quantity of training differed from salesmen with different lengths of service. An example of this is given in Figure 10:2.

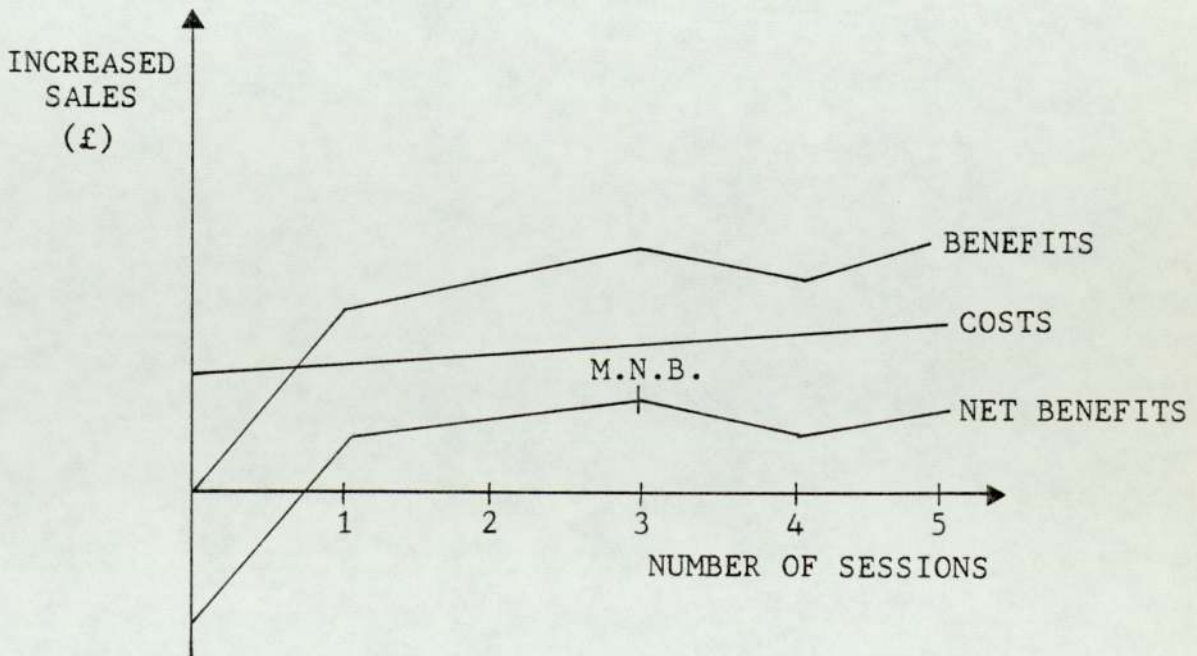


FIGURE 10:2

10.3.6. In fact, none of this proved possible. Although each group was trained for one or two sessions, the whole exercise was abruptly ended when the company made many of its training staff redundant, including the training officer administering and instructing on these sessions. This was largely due to the firm's unfavourable trading position, and resulted in further research becoming impossible.

#### 10.4 Costs

10.4.1. Some estimate was made, however, of the costs of running the training that had been observed. The first course had fixed costs, given that the length of training would be three days, and these were estimated as follows:

Trainer's salary: £12 per day for 9 days (including 6 days preparation).	=	£108
Trainer's employment overheads: $\frac{1}{3}$ of above.	=	£36
Materials.	=	£5
Occupancy of training room: £35 per day for 3 days.	=	£115
		<hr/>
		£264
		<hr/>



The costs which varied with the number of participants were:

Participants' salaries:		
£40 per week for 3 days.	=	£24
Participants' employment over-		
heads: $\frac{1}{3}$ of above.	=	£8
Expenses: 50p per day (travel)		
for 3 days.	=	£1.50
Food: 50p per day for 3 days.	=	£1.50
		<hr/>
		£35.00
		<hr/>

Thus the cost of running the training at all was an estimated £264, with a marginal cost of £35 per participant. With four participants trained on this course, the total cost was thus £404, or about £100 each.

10.4.2. In the case of the series of sessions, it was possible to distinguish costs that were fixed with reference to the number of sessions from those that varied. In this case, the only fixed costs were:

Hire of film	=	£40
Materials	=	£5
		<hr/>
		£45
		<hr/>

The costs that varied with the number of sessions were:

Instructor's salary: £12 per day  
for  $1\frac{1}{2}$  days, ( $\frac{1}{2}$  instruction, 1  
preparation) = £18

Instructor's employment overheads:  
 $\frac{1}{3}$  of above. = £6

Occupancy costs of training room:  
£35 per day for half a day. = £17.50

Lunch: = £5

Participants' salaries: £47.50,  
£42.50, or £40 per week for half  
a day. = £4.75, £4.25,  
or £4

Participants' employment overheads:  
 $\frac{1}{3}$  of above. = £1.58, £1.41,  
or £1.33

Participants' travel: £6 or 50p.  
each for 8 staff. = £48 or £4

The different salaries for the participants depended upon the grade of staff trained (A, B, or C respectively). The difference in travel costs depended on whether they were employed locally to the training centre in Birmingham, or had to travel some distance for training. Assuming that eight participants took part in every course, the total variable cost for



each session is tabulated (in pounds) by grade of staff and by distance in Table 10:1.

Distance \ Grade	A	B	C
	Local	57	51
Distant	99	93	91

Table 10:1

10.4.3. When these variable costs are considered together with the fixed cost of training, the costs of training staff of different grades travelling different distances, for a different number of sessions, can be represented graphically (See Figure 10:3).

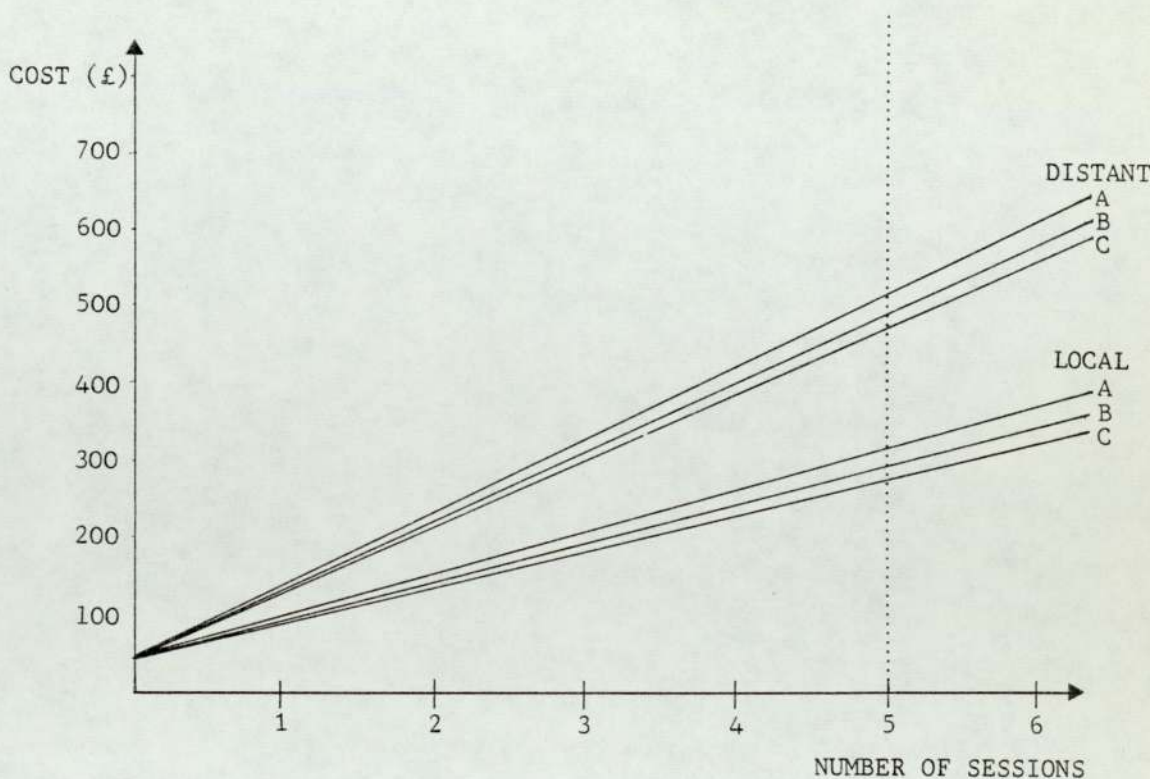


Figure 10:3

## 10.5. Benefits

10.5.1. As far as the benefits of training were concerned, the study did not point to many positive results. This was partly because the research design had to be changed and was then frustrated; but even such data as was collected did not suggest that the training had any demonstrable effects.

However, the study did suggest that when the four salesmen on the original course were trained, the firm was using up slack manpower. This can be concluded from the finding that the salesmen were not engaged in selling for at least two-thirds of their time at work. It might be argued that they could have been put to other use; but in fact observation on the job did not suggest that much of the salesmen's 'non-selling' time was spent productively (although no measurement was taken of this).

Therefore, if employing the salesmen is accounted for in full as a 'cost', an estimate of the value of this slack time used up must be allowed as a balancing entry on the 'benefit' side.

The participants' time was valued at £32 each for three days, including overheads. Since an estimated two-thirds of their time would have been spent idle (for the days involved, mid-week, this might have



been greater), the value of the slack time used beneficially can be put at  $\text{£}32 \times .66 = \text{£}22$  each.

10.5.2. It is arguable that a deduction should be made from the results of training to show the value of 'output lost' because of the salesmen's absence from the job. On the basis that average sales per man between Monday and Thursday are  $\text{£}136$ , the value of lost sales might be put at  $\text{£}408$  each for the three days (or say  $\text{£}403$  after the commission is deducted). However, there are two difficulties with this. In the first place, all that would be lost to the firm would be the gross profit (less marginal cost of sale) on this amount. Secondly, in view of the slack time available to salesmen, it is most probable that the customers who were not served by the course participants would have been served by another member of the store's staff.

The figure of  $\text{£}403$  per participant has, therefore, to be modified by two factors: a proportion representing the average gross profit element in the selling price, and another representing the probability that a customer would (because of the salesmen's absence) not find a salesman to serve him. The average gross profit margin in furniture

can be put at approximately 40% of the selling price (equivalent to a mark-up of  $66\frac{2}{3}\%$ ). The probability that every salesman at work would be unavailable to serve a customer, is equal to the probability that one salesman will be unavailable, multiplied to the power of the number of salesmen left on the shop floor. The probability of a salesman being unavailable has been estimated at .33, and the number of salesmen on duty (mid-week, taking days off and training into account) may be put at 3. Hence the probability of a customer not being served is roughly  $.33^3 = .036$ .

The estimate of output lost to the company is therefore:

$$£403 \times .4 \times .036 = £5.80$$

This can be said to be approximately £6 per participant for a three-day course.

- 10.5.3. The total benefit of the course which can be estimated for one participant is, therefore,  $£22 - £6 = £16$ . For a course of 4 people, this benefit is  $£16 \times 4 = £64$ .

## 10.6. Comparison of Costs and Benefits

- 10.6.1. Little in the way of direct comparison between costs and benefits was possible, because of the



lack of information on benefits. The comparison between the costs of the original training and such benefits as were measured is illustrated in Figure 10:4, which shows how each might vary with the number of participants trained. Because the only benefits demonstrated arose from the consumption of slack time (less profits lost), and the

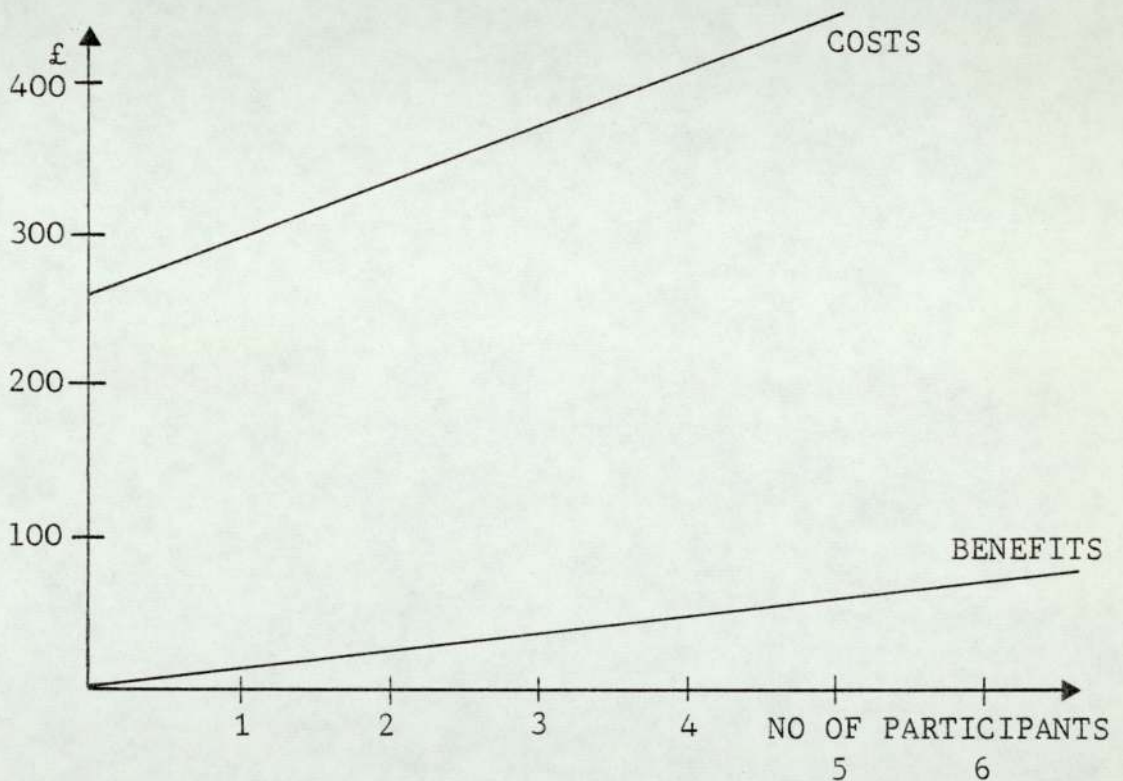


Figure 10:4

time was less than the total time for which the participants were employed, these benefits are necessarily less than the costs. Thus, on this basis, no amount of training would be worthwhile. However, these benefits do provide a base for

showing how great the other results of training (which were not established) would have had to be to justify the whole activity.

- 10.6.2. In the case of the half-day sessions, no benefits were measured, and thus the costs described in Figure 10:3 are the only information available. This figure indicates the range of costs for training staff of different grades, employed in different locations. It would be possible, from this information, to establish what distribution of benefits might be needed to justify the training.

## 10.7. Conclusions on Training

- 10.7.1. No conclusions on training were possible, because of the impossibility of measuring benefits. However, the study did suggest that results from the training were far from evident, and that a number of questionable management practices were likely to have detracted from the effects of training. In particular, the dismissal of a newly-trained employee and the impulsive changes in training design, must both give cause for concern.



UNIFIED VOCATIONAL PREPARATION

"To youth I have but three words of counsel - work, work, work".

(Bismarck)

*This chapter describes research on training carried out by the D.I.T.B. itself, under the auspices of the T.S.A., as part of a scheme to develop training for school-leavers who have just entered employment in distribution. The training was costed, and various assessments made of the benefits. In general, it was found that employers felt the course met their expectations, whether these were high or low, while the participants felt they had gained from the course. Although none of these gains were assessed in financial terms, research did permit estimates to be made of the costs of training different numbers of participants, and the cost of including evaluation in a training design.*

11.1. Type of Training

11.1.1. During the course of the research into evaluating the cost/benefits of training, there was an increase of unemployment in the developed countries. Particularly marked was the number of young people leaving school who did not find jobs, a problem in Britain as elsewhere (The Economist, 1977). There was some evidence that, even when jobs were available, the supply of school-leavers was not of the right nature to fill them. In effect, there seemed to be a mismatch between

the output of the educational system and the demands of employers; and various steps were taken by those concerned to remedy this. At least one proposal was published by a training manager within distribution (Stoppard, 1976).

- 11.1.2. In addition, it was clear that, whatever the benefits of changes in the educational system since 1944, there was still for many school-leavers comparatively little choice in jobs (Blair, 1973), little preparation for 'vocational' appreciation (Keil, 1976), and a scant amount of continued education after leaving school (K. Baker, 1976; Great Britain, 1976). It had been appreciated for many years that the change from school to work was a problematical stage in the lives of young people, and some studies from earlier years had suggested that more was needed in the way of information to schoolchildren about what to expect from work and what attitudes should be developed in preparation (Carter, 1962; Hill, 1969). A more recent study infers that, though improved, the state of the information services still leaves something to be desired by school-leavers (Gordon & Williams, 1977).



Equally well-known was the lack of major activity from many of the agencies involved in this field. A few booklets exist, which give advice to those starting work for the first time; these are often published by such organisations as B.A.C.I.E. (Smurthwaite, 1960) or the Industrial Society (Adamson, 1972). In addition, a few education authorities in the Midlands have run a course for secondary schoolchildren entitled "Understanding Industrial Society" (Birch & Sanday, 1977); this type of activity has increased in recent years (Lewis, 1977). Nonetheless, it was somewhat of an innovation when it was proposed that large-scale provision should be made for the 250,000 to 300,000 young people who leave school every year and enter employment with less than eight weeks' training (and often with none at all). A discussion paper was published by the Training Services Agency and the Manpower Services Commission (1975), followed by a Government statement from the four departments of state concerned (Great Britain, 1976).

- 11.1.3. Described as 'unified vocational preparation' (U.V.P.), or by some as 'gateway' training, the development aimed at getting young people better

equipped to tackle the demands of their working and personal life, and at making them more aware of factors affecting their work and of the opportunities open to them. The proposal was to run about 20 pilot schemes to test the feasibility of U.V.P., and the D.I.T.B. was invited to organise three of these.

11.1.4. However, preliminary consultations suggested that employers were, in general, not eager to release their newly-recruited staff for training with little or no specific orientation towards their jobs. This, even despite the £2 a day offered by the Government, was in due course confirmed by an overall view of the limited success of the scheme (Jackson, 1977). From the start, therefore, it was appreciated that some sort of assessment of U.V.P. would be needed (Bolton, 1976), and the D.I.T.B. resolved to include evaluation in the first U.V.P. course run under their auspices.

The statement describing the proposed D.I.T.B. pilot scheme stated that each course would:

- (a) have specifically defined measurable objectives;



- (b) aim only at school-leavers in employment for a short period;
- (c) involve regular assessments;
- (d) match the participants with a control group of similar young people not on the scheme;
- (e) integrate on-the-job and off-the-job training;
- (f) last for about twelve weeks;
- (g) be developed and monitored by a small steering group; and
- (h) be designed to suit the specific situation of the participants.

In view of points (a), (c), (d) and (g), the present researcher joined the steering group for the first U.V.P. course, and attempted to evaluate it. This course was run for half a day per week, over two periods of six and seven weeks respectively, at the Youth Centre, Luton, Beds., and organised by staff at the D.I.T.B.'s Bedford office.

11.1.5. Despite widespread enquiries, only four companies sent participants to the course; one company sent two, and there were thus five participants in all.

Four of these were aged 16, all born within five weeks of each other; the fifth was almost 18, having left school slightly older than the others and been unemployed for a while. All five were employed in distribution: two in retail shops, one in a wholesale warehouse, and two in the office of a company importing and wholesaling its own manufactured goods. One participant changed his job during the break between the two periods; he moved from a retail shop to a builders' merchants' warehouse with a trade and retail counter.

Every course member had either done a different job previously, or hoped to follow a different career; the jobs mentioned were: police cadet, army mechanic, music teacher, nursery nurse, shorthand typist.

Three of the participants had been recruited to fill specific vacancies in their companies, while the other two were employed more for the potential value of their future career. These two were the only ones for whom their employers appeared to have career development plans, in one case aiming him to be the manager of a small branch



within a couple of years; in the other case, development was seen as slower and more stretched out, and in fact, this was the participant who left the company shortly after the six weeks period.

## 11.2. Criteria for Measurement

- 11.2.1. In each of the four employer firms, the course members' managers were interviewed at the start of the course, and 4 weeks after it ended. In the case of the participant who moved employment, his first employer was interviewed at the start, and his second employer at the start of the second part of the course, and again four weeks after its conclusion.
- 11.2.2. A certain attempt was made to validate the course in terms of changed personal characteristics of the participants. When their employers were interviewed, they were asked to rate the trainees for various characteristics. The rating scales used are given in Appendix 5.
- 11.2.3. In addition, the participants themselves were asked, at the start of the course, what they expected to gain from training; and four weeks

after the end of training, they were asked (in addition to their general reactions) to assess how much they had learnt of the items they had mentioned previously.

- 11.2.4. The hypothesis upon which the training was based was that, after the course, the participants would be able to contribute more to their work, both in terms of job knowledge and of improved social skills. The evaluation hypothesis was that management would agree that this had happened, while, as far as social skills were concerned, the improvement would be measured on the rating scales; in addition, the participants would show an appreciation of their own benefits from the course. While costs were also to be assessed, it was noted that no comparison of these with benefits was likely.

### 11.3. Performance

- 11.3.1. The reactions of the managers at the start ranged from highly enthusiastic to decidedly reserved, although only one expressed doubts about whether to send any employees (this should, of course, be noted alongside the fact that a greater number of employers actually decided not to take part at all).



In three of the cases, the managers originally expected the course to be of value, this mainly in the area of generally aiding personal maturity and giving confidence, rather than of providing more job knowledge or management ability. One of these participants was the one who changed job, and his new employer was more uncertain about the benefits. In the case of the other two, clear doubts were expressed about the value of the course, at least to the company.

- 11.3.2. When the employers were interviewed afterwards, their expectations were largely realised. The employers who expressed doubts said they felt the course had not been of value to their companies, although they agreed that the three participants may have benefited personally. The other two felt that the benefit was to both the employee and the firm; this appeared mainly to be through an improvement in the initiative and team contribution provided by the participants. One of these two felt that the course was not detailed enough to be beneficial as far as business or managerial knowledge were concerned.

- 11.3.3. As far as the rating scales were concerned, the

two participants employed for their career potential were rated highest at the first interview, the one envisaged for quick promotion achieving the highest rating on every scale. The three others were marked almost identically.

However, the course member who changed job, having been highly rated by his first employer, was rated again by his second employer who gave him a lower score than any of the others. This might appear to cast some doubt on the reliability of the measures; but, as it is intended only as a relative measure, while the rates is held constant, it is reliable enough for its purpose.

- 11.3.4. At the second interview all participants were rated more highly than at the first, and on no occasion was any individual score for any scale lower than at the first. The consistency with which this occurred suggests both that there was noticeable improvement during the interim period, and that the scales were a valid measure of what the course sought to teach.

In the case of the course member who changed job,



his second employer's ratings indicated an improvement, although the last rating was still slightly worse than the original one by the first employer. In the case of two scales, there was a lower rating after the end of the course than at the first employer's interview.

11.3.5. Comparing the two ratings for all participants (and, in the case of the one who changed job, taking his original employer's rating so that 'before' and 'after' difference is minimised), the average scores at the two interviews were (out of a maximum of 5):

<u>Scale</u>	<u>1st Interview</u>	<u>2nd Interview</u>	<u>Improvement</u>
1. Sociability	4	4.4	.4
2. Self-confidence	2.8	3.2	.4
3. Communication	3.2	3.6	.4
4. Initiative	2.9	3.3	.4
5. Work with Elders	3.4	3.8	.4
6. Co-operation	4.5	4.3	-.2

A t-test carried out on the individual differences for each trait showed that the improvement was significant at the 1% level.

A very high positive correlation was found between

the average scores for each characteristic at the first and second interviews (+.95), suggesting that the improvement was generally consistent for all characteristics; and a slightly lower one between the average scores for each participant (+.69), suggesting that, by and large, all participants had improved consistently.

Employers were not, of course, told at the second interview what ratings they had given at the first. It is unlikely, therefore that they would have tended to rate more highly to show an improvement where it was desired.

On the other hand, it is possible that any improvement might have been due to factors other than the training - in particular to natural development at what is a very educative stage in a person's life. This problem was noted in the discussion on the theory of evaluation (3.5.3.). Since it was not possible to establish a control group, as had been intended, no absolute conclusion on this point can be reached.

- 11.3.6. Although the participants were not always clear at the start about what they expected to gain



from the course, all gave at least one suggestion. The most mentioned benefit was the ability to 'deal with people' (in one case, with older people), followed by 'understanding business', and 'making friends'. Other items mentioned once, were tax, insurance etc; getting self-confidence; being successful at work; learning about oneself.

It was noted that the majority of these expectations concerned social skills and general maturity, although there was some awareness of what knowledge might be gained from the training.

- 11.3.7. When they were asked, four weeks after the course, to assess how much they had learnt of the items they had mentioned before, the participants said, in 9 out of 13 cases, that they had learnt a lot. The other four cases covered the range of items listed above, and all involved learning 'a little'; but three of them were from the same participant, which suggests harsher rating rather than different attitudes. In no case was it claimed that nothing was learnt.

- 11.3.8. Other benefits claimed from the course included:

more confidence in a successful career; the ability to see other people's points of view; the ability to discuss without arguing; appreciation of the greater responsibility in working life than at school; appreciation of communications; knowledge of building societies (mentioned twice), banking and trades unions.

Again it was noted that the main benefits mentioned concerned social skills and general maturity.

Also the elements of knowledge mentioned tended to be those of personal rather than occupational value.

- 11.3.9. The course members were asked what other subjects could have been discussed on the course. Apart from a request for more of the items where it was considered only a little was learnt, the only comments concerned life insurance, etc.

It appears, therefore, that the parts of the course considered most valuable by the participants (or that stuck best in their minds) were those involved with interpersonal skills, the development of personal maturity, and information about personally useful subjects such as finance. It



was these areas where the training was desired, rather than in business or managerial knowledge.

11.3.10. Criticisms of the course included that there was no need for a film on job induction (criticised twice) or for a session on trades unions; that there should have been more opportunity to visit a business to see management problems at first hand; and that the course was insufficiently challenging (this came from the highest rated trainee).

11.3.11. There was disagreement over the proper time to hold the course. Two participants felt it should have been run while they were at school, one preferred a gap between school and work for such training, and another felt it should happen after a year's experience.

All participants said they liked holding the course in the Youth Centre, and that they found it interesting. Two felt it might have been slightly longer - another 3-6 sessions, perhaps - and one felt it should continue for at least a year. However, it was not apparent what this extra time would be devoted to, so that the wish

seems to reflect appreciation of the course rather than a desire for further specific information.

11.3.12. There was no agreement as to how relevant the course was to the participants' jobs. In particular, the two who worked in an office described it as 'rather irrelevant' (point 2 on a 5-point scale), and the participant in shop management rated it only at point 3. In view of the lesser appreciation for the business management element of the training, this does seem a point of concern.

11.3.13. While the instructors and employers had reservations about the small number of participants, some participants felt this was an advantage for the course.

#### 11.4. Costs

11.4.1. As far as the costs of the training were concerned, it was possible to assess these in some detail. The training took place in hired rooms, for which the charge was £66. A youth tutor from the Y.M.C.A. participated, and charged fees of £195. Films were hired for £38



(although other films, already in stock, were used and not accounted for). Administration and preparation of the course were estimated to cost £50 plus 20 man/days of training adviser time; the £50 consisted largely of travelling costs, although the cost of running D.I.T.B. cars was not included. At £56 per man/day (which includes employment overheads, management and administration) the 20 man/days can be valued at £1120. In addition, 10 man/days were spent lecturing, valued at £560.

The total cost to the D.I.T.B. of running the course (and thus, indirectly, to the T.S.A.) was thus:  $£66 + 195 + 38 + 50 + 1120 + 560 = £2029$ . In addition, the participants' time can be costed at £4 per session per person, or £220 in total, so that the total cost of the course is estimated at £2249.

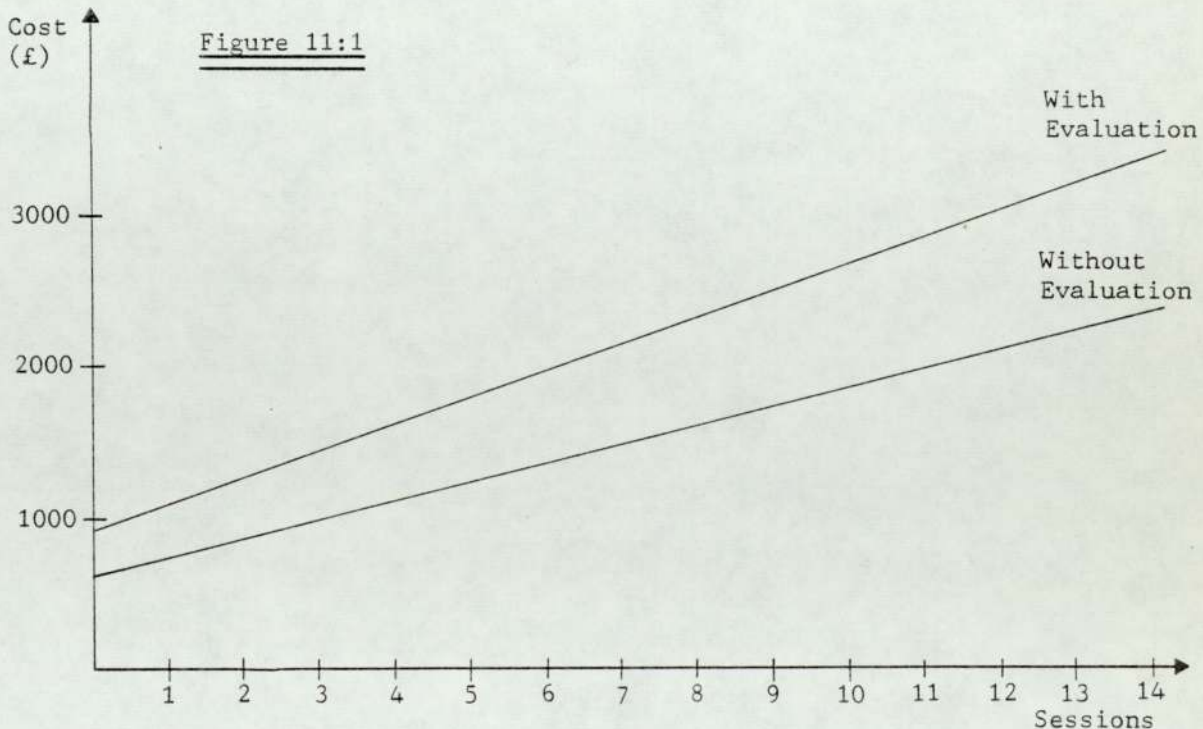
- 11.4.2. Of these costs, the following varied with the length of the training: hire of rooms, Y.M.C.A. fees, lecturing time, participants' time, and an estimated half of the time in preparation. These totalled £1601, or roughly £123 per session over 13 sessions. The other costs (£648) were fixed,

no matter how long the course ran.

11.4.3. An interesting feature of this study was that it was possible to assess the cost of evaluating the course. This amounted to £250, from travel and other items, plus 16 man/days. The evaluator's time can be valued at £45 per day, or £720 for 16 days.

The total cost of £250 + 720 = £970 can be divided into £675 variable with length of course (or approximately £52 per session) and £295 fixed.

11.4.4. The total costs of training, as varying over different lengths of time, can thus be illustrated (see figure 11:1).

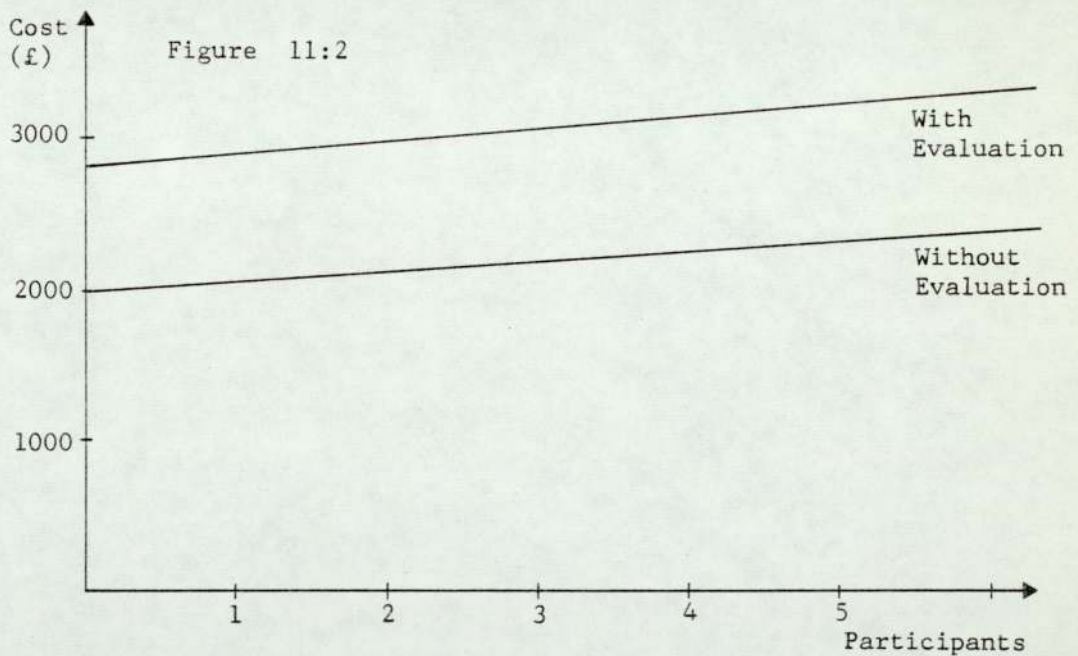




Since it was not possible to specify in detail what benefits the employees were expecting to gain from the training, and since, consequently, no measurements of results at different stages during the course could be made, it was not possible to compare these costs with any benefits. However, it was clear that the total cost was great in comparison to the numbers of participants. The whole exercise for 13 days cost £3219, including evaluation, and involved attendances of 55 man/half-days. The cost per man/half-day was hence approximately £58.50, making the cost per participant for the full course of 13 half-days £760. It is easy to understand why, if employers had to find this money, they would be reluctant to send participants.

- 11.4.5. Although many of the costs varied with the length of the training, almost all of them were fixed with respect to the number of participants. The only costs, in fact, that varied with the number of participants were their own time (£220) and a small element of the time spent on administration, estimated at approximately 1 man/day, or £56. In addition, an element of the evaluation travel (some £10) and time (some 3 days, or £135) varied

with the number of participants. Thus the total fixed cost (with respect to the participants) was £1993 for training, plus £825 for evaluation; variable costs were £276 and £145 respectively, for 5 participants. These total costs are illustrated in figure 11:2.



11.4.6. It is clear from a comparison between the lines on figures 11:1 and 11:2 that variation in costs arises far more from changing the length of training than from changing the number of participants. Conversely, the cost



per unit of training will fall faster as the number of participants increases than as the length of training increases. Thus, if the cost of the course is to be maintained within reasonable limits, the most valuable change in quantity of training would appear to be an increase in number of participants.

11.4.7. Owing to the experimental nature of the training, some of the costs of the course were larger than might be expected from a similar exercise if U.V.P. became standard. Thus the time for administration and preparation might be reduced by, say, 50%, and the time and costs of evaluation by a similar amount, were the course to be run again. This would put the total costs of the exercise, with respect to numbers of participants, at:

Training - fixed: £66 + 38 + 195 + 560 + 504  
+ 50 = £1413  
- variable: £56 + 220 = £276 ÷ 5 = £55  
per participant  
Evaluation - fixed: £115 + 225 = £340  
- variable: £135 + 10 = £145 ÷ 5 = £29  
per participant.

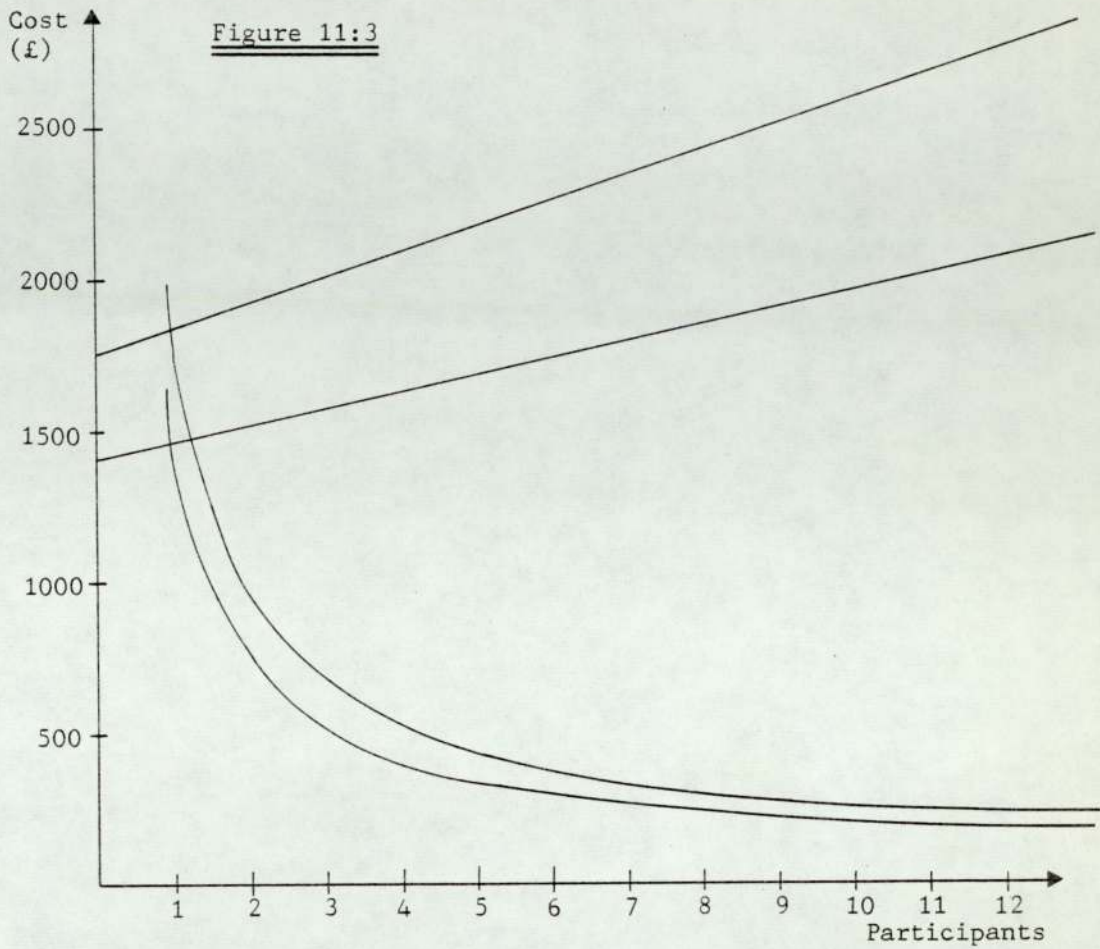


Figure 11:3 illustrates these costs, together with the resulting costs per participant, for different numbers of participants between one and twelve. Clearly, the greater the number of participants, the less the cost per capita (as would be expected in any case where there is a fixed element of costs added to a constantly variable one). This will continue until the number of participants becomes so great that the



marginal cost of more training increases faster (for instance, because more rooms or tutors have to be hired) and starts to exceed the average cost. At the sort of numbers under consideration for each U.V.P. course, however, it seems unlikely that such a point would be reached.

### 11.5. Benefits

11.5.1. Though it was possible to conclude that the course had been successful, it seemed that the objectives of the course, in terms of benefit to the employers, were not always clear to the participants' managers. The training was viewed as being for the young person rather than for the firm. This made it difficult to assess the benefits for the employers (and impossible to do in financial terms), and this difficulty was aggravated by the failure of the steering group to find any other young people to be treated as controls. One firm which was expected to provide a number of participants and controls in fact provided neither. There was therefore no question of comparing costs and financial benefits.

### 11.6. Conclusions on Training

11.6.1. Employers felt the course achieved largely what

they expected (whether these expectations were high or low).

11.6.2. The ratings throw some light on possible training needs of the participants. Ratings were consistently high for sociability and co-operation, which suggests that the course objective "to enable young people to work in a group situation" was not of major importance. On the other hand, ability to work successfully with older people appeared to be in greater need of development, and in particular there was room for improvement in initiative, self-confidence, and ability to communicate.

11.6.3. From ratings made by employers, it is clear that the participants did develop in social skill and attitude areas, such as the above; it is not certain how much of this was due to the course, although some managers and all participants attributed the improvement to training.

11.6.4. The participants approved of the course and felt the greatest benefit was in social skills, general maturity and improved knowledge in personal (e.g. finance), rather than occupational, areas. There



was some suggestion that the course could have profitably been a few weeks longer. There was no agreement as to whether the course should have been run for people before they left school, immediately after, or some considerable time after.

- 11.6.5. All indications suggest that the main areas of benefit were in interpersonal skills, while it is questionable whether the business management exercise was of particular value. The latter is particularly true of the two participants who worked in an office. This is one of the findings that lead to the conclusion that a future course should be planned in more detail in advance, so that the training needs of the particular participants could be assessed more accurately.

Note: While the data collection and analysis of this case study were carried out by the researcher alone, the design of the methodology was done by him in collaboration with D.I.T.B. staff and others involved in setting up the training.

DETERMINING THE PRIORITIES OF TRAINING

"The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man."

(G.B. Shaw, *Maxims for Revolutionists*, 238)

*This chapter does not deal with any specific training, but instead describes a method designed to help trainers determine the priorities of training. The original system is given, together with the modifications that were found necessary when it was put into practice. It works by allocating a number of points to each training project, according to five criteria, and then arranging the project in an order of priority, according to their number of points and other variables. Although it appears that the method is useful, as long as it is adapted for specific circumstances, it is clear that it needs to be tested for a longer period of time than was available in this research. In addition, the study shows that, if a firm's priorities change too fast, no system such as this is likely to keep pace with them. (An article based on this chapter (Hart 1977b) has been accepted for publication, and a copy is appended to this thesis).*

12.1. Type of Activity

12.1.1. One of the major problems that any training manager has to face is deciding which training projects to carry out - or frequently, which projects not to carry out. The manager's situation is seldom a simple one, since he has to balance the availability of his resources - in particular, his staff - against



the demands for training that may arise, often foreseen but also unexpectedly, from all levels and departments of an organisation. Sometimes, indeed, the instruction is to redirect resources from whatever is in progress to another training priority with overriding urgency; often, it is suspected the originator of the instruction does not know what is in progress.

It was clear from discussions that this was particularly the case in those firms where the training function found itself under pressure from senior management to carry out sudden and urgent work. Some training managers felt that their superiors did not appreciate the impact this had on work planned; some system of priorities might, then, ensure that the work which had to be sacrificed was the least important, as well as giving the training function the chance to respond to the sudden demands by pointing out what work would not be achieved as a result of the emergency.

The problem, to sum up, is at least a threefold one. Training management must ask:

- . which projects should we carry out, and which should we postpone?

- . how many staff should we have?
- . how should we cope with sudden emergencies?

In a single phrase, the problem is one of determining the priorities of training. It is generally accepted that training should be planned, and it has been noted (in 1.3.3. supra) that systematic training has been a major emphasis of the D.I.T.B. since its inception. Although planning priorities have not been particularly emphasised, it seemed to be in this field that concern for cost effectiveness had the closest connection with training systems. Despite such concern from the D.I.T.B., it is questionable how much forethought is given to planning training activities for the months ahead in a way that will deal with these three questions.

- 12.1.2. It seems evident, from the problems mentioned, that an important criterion for assessing the value of training must be the relation of benefits to costs involved. One article in a parallel field (Cheek, 1973), personnel management in the U.S.A., describes its system as bringing 'cost effectiveness' to the function. In practice, this causes a number of difficulties. In the first place, the costs and benefits have to be estimated in advance; and secondly, the benefits of training are often not



expressed in financial terms. It is clear, from the present research, that not all benefits are measurable. Cheek distinguishes economic benefits, intangible benefits and economic risks, the last referring to the possible consequences of not carrying out a programme. Of these he suggests that financial figures can be attached only to the economic benefits, and even here the example he gives seems optimistic in the detail it achieves. In addition, he points out that a legal requirement for a personnel programme may override all other considerations. It would generally be agreed that cost/benefits are not the only issues involved in choosing priorities; thus Johnson (1976) puts stress also on learning objectives and other issues.

- 12.1.3. In view of these points, it was felt that a scheme was needed for distributive training which would permit the estimated cost effectiveness of individual programmes to be balanced against other factors, so that all projects could be placed in an order of priority reflecting their importance to the organisation. It was decided to test the hypothesis that such an order of priority could be established, and to investigate whether this could be fitted into the general model of the cost/benefits of training.

This was the only hypothesis possible in this instance; the question of a training hypothesis was not appropriate, because the actual effects of training were not to be tested. The costs and benefits involved were ones budgeted in advance, not actual ones measured after training.

## 12.2. Original Criteria

- 12.2.1. A scheme was thus drawn up for testing, based to some extent on Cheek's system, but referring specifically to training, rather than to personnel in general. This assumed that the activities being considered were constituted as discrete programmes, or else could be broken down into such. Although this assumption may not always be realistic, programmes generally interlink when it makes no sense to carry out some without the others - in which case the whole structure should be considered as one project. However, real scrutiny was to be given to such a case, to check that there was no possibility of breaking the activities into smaller programmes.
- 12.2.2. Once this separation of programmes had been achieved, the objectives of each were to be considered, with a view to determining, at least in outline, the practical details concerned.



An estimate would need to be made of the time that staff would have to devote to developing the programme, and to carrying out the actual training (if that was involved). Such estimation is always approximate, and is best guided by experience; but a well-considered analysis of what was involved might improve its accuracy.

Each programme would then be considered against the criteria which would be used to determine relative priorities, by means of a number of points to be allocated.

12.2.3. The criteria for consideration were:

1. The legal requirements for carrying it out;
2. The cost of carrying it out;
3. The financial results estimated;
4. The organisational problems involved;
5. The skills needed.

The steps involved in this process are shown in the algorithm in figure 12:1. Further details about these five criteria are as follows.

12.2.4. Legal requirements:

Most organisations, at some time or another, find that they are obliged to carry out training, either

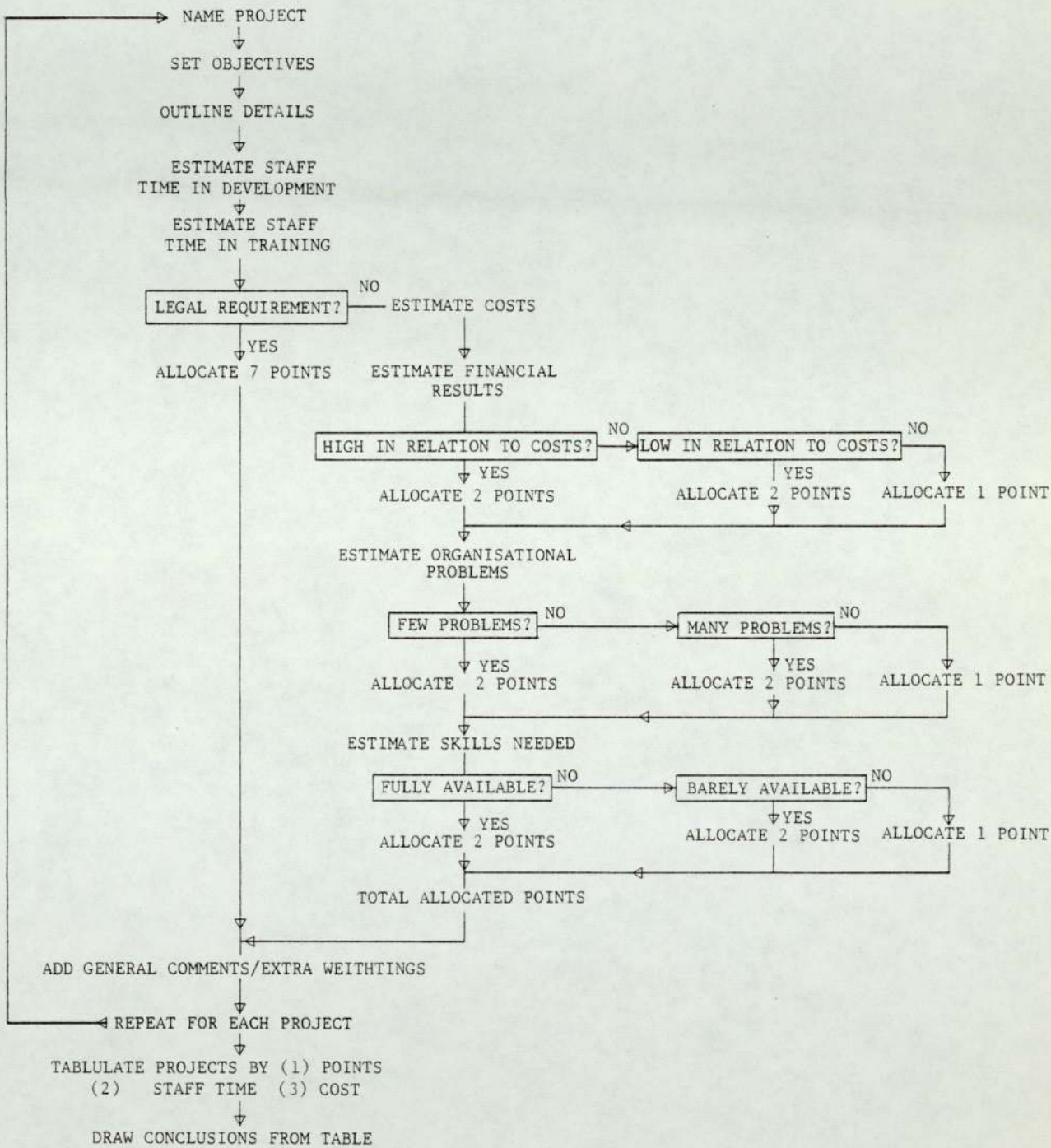


FIGURE 12:1 ALGORITHM OF PROCESS FOR ALLOCATING PRIORITY RATINGS TO PROJECTS AS ORIGINALLY DESIGNED



because of a longstanding legal obligation (e.g., dangerous machinery), or because of new legislation (e.g., Health and Safety at Work, equal opportunities), or because new systems are being introduced following legal changes (decimalisation, VAT, metrisation). Such instances are generally distinguishable from other types of training, in that it makes no sense (either financially or morally) to consider not carrying out the programme. In some cases, the question might arise of how much training should be given; but in such cases, there are generally a number of programmes, the most fundamental of which is likely to be a legal necessity, while the others are optional (and should be treated as such).

If a programme was considered a legal requirement, it was automatically to be put into the top priority group by allocating 7 points to it; and, when the other four criteria were considered, there would not have been any question of allocating points to such a programme. Points from the other criteria were thought relevant only where a project was not a legal necessity.

12.2.5. Cost of operation:

This involves an estimate of all the financial outlays involved in the training, including such

elements as cost of trainees' time, cost of training staff time, cost of instructors 'borrowed' from other departments, expenses, course fees, consultants' fees, materials, equipment and fuel. It may, in addition, be felt necessary to estimate a share of the depreciation on buildings and capital equipment, of property overheads, Training Board levy, and so on - in other words, the total accounting costs. However, this would depend both on the detail in the organisation's accounting procedures, and whether these costs are considered marginal.

12.2.6. Financial results:

These are the benefits anticipated from the programme.

When the estimated results had been totalled, they were to be compared with the costs to see whether the return on the costs was 'high', 'medium' or 'low'. The precise definition of these terms would have been a decision for management, but it was to aim at splitting the programmes into three roughly equal groups. Points would then be allocated to each programme: 2 points for a 'high' rating, 1 point for 'medium', and -2 for 'low'.

12.2.7. Organisational problems:

It is one thing to estimate the results of success-



fully implementing a training programme; it is another to determine the likelihood of a successful implementation in a particular organisation. The attitudes and general working environment of employees play a substantial part in producing the practical results that any training effort is intended to achieve. If the training manager feels that, in addition to the project itself, a great deal of effort will need to be put into changing management's outlook or even the structure of the organisation; then he must reckon that he has many problems to face in this instance, when he compares different programmes.

It will often be a question of the amount of 'selling' that will be needed before the implications of a project are accepted. In cases where training has been prescribed by the organisation to bring about a change in attitudes, the same question may still apply, although then there may well be one programme which minimises these problems by approaching the attitude change where least selling is necessary - perhaps at top management, if the original instructions have come from that quarter.

Whatever the precise nature of the programme, it

was to be assessed according to whether its organisational problems were 'few', 'medium', or 'many'; and points allocated were to be 2,1 and -2 respectively.

12.2.8. Skills needed:

Another factor which must operate before the best training programme will be successful is that the skill must be present to communicate accurately with the trainee. These skills may be both those of general instruction and of specific techniques, and relate to the overall 'state of the art' in the field to be taught. If instructors will need more practice before perfecting their performance, this will lead to a decision that the desired skills are not fully available (this may also have been taken into consideration when the cost of the programme was estimated). Similarly, equipment or systems may be novel, and may thus require novel skills.

If the skills needed were fully available, 2 points were to be allocated; if moderately well available, 1 point was to be allocated; and if barely available at all, - 2 points.

12.2.9. As a result of considering these five criteria, a number of points would have been allocated to each



training programme. These were to be totalled in each case, and used to provide the degree of priority for the programme. If the training manager wished, he would now add comments and weightings to these priorities where he felt that special circumstances pertained. However, it was hoped that this would normally be unnecessary - otherwise, there might be a justification for including another criterion in the structure of the points system.

On the basis of the analysis made, the programmes could be listed in an order of priority, grouped by number of priority points, by training staff time needed, and by estimated cost (with the lowest taking priority in the last two).

### 12.3. Application of System

12.3.1. The system was tested in two different firms in the Midlands within the scope of the D.I.T.B. Firm A was a manufacturer and distributor of scaffolding and falsework, who had transferred to the D.I.T.B. from another Training Board some years previously, for a number of reasons, including their own orientation towards marketing and distributing their products. The other (firm B) was a large mail order

subsidiary of one of the biggest groups in distribution.

During these tests, it became apparent that the system needed modification in two major areas.

First, more detail was needed in the method of comparing costs and benefits. Secondly, some of the weightings in the points scheme had to be changed.

- 12.3.2. The method used for comparing costs and benefits, and establishing the 'high', 'medium' and 'low' relationship, was as follows.

Details of each training programme were recorded on cards (see appendix 6) and this included a calculation of the total estimated cost of the programme. In addition, a broad estimate of the benefit was made, by considering both the number of likely participants in the programme and the general magnitude of the benefits that might be expected from training the average participant. These two factors multiplied together gave a figure which represented an assessment of likely benefits.

The programmes were then ranked according to cost, and divided into three groups, as equal in size as possible, to indicate which were high cost, medium



cost and low cost (groups A, B and C). Next, a similar procedure was followed for benefits, although in this case the ranked programmes were divided into four groups, to indicate high, moderately high, moderately low and low benefit respectively (groups A, B, C and D). The comparison between the two groups that each programme was a member of was then made, according to three rules. First, if the benefit letter was higher than the cost letter (AB, AC or BC), two points were awarded. Second, if the benefit letter was the same as the cost letter or one lower (AA, BA, BB, CB, CC or DC), one point was awarded. Third, if the benefit letter was two or three lower than the cost letter (CA, DA or DB), minus two points were awarded. The reason for these numbers of groups (3 for costs, 4 for benefits) was largely pragmatic; the arrangement worked. Though arbitrary, it provides a greater number of combinations of cost/benefits than would be available if, say, each was divided into three groups, and it accentuates differences between costs and benefits in extreme cases.

- 12.3.3. As far as the weightings in the points scheme were concerned, it was clear from the first research in the scaffolding company that the question of legal obligation was not as simple as had first appeared.

While some training was certainly required by legal changes, as in the case of new eye safety regulations, others had a partial legal element - for instance, quality control training was partly needed because of the Health and Safety at Work Act, and one programme on a specific field relating to scaffolding - wind loading - was also necessary because of the danger in failing to train in this subject.

To accommodate this, it was decided to award 7 points, as originally intended, for a full legal requirement, and to award 3 points for a partial one; and then to consider each programme against all the other criteria also, rather than to isolate those required by law from the rest of the points scheme.

- 12.3.4. A second adaptation found necessary in the points awarded related to the definitions of organisational problems. As the training programmes in each firm were studied, it became apparent that in certain cases the introduction of, say, a new system produced a special need in the organisation for training. There would, in fact, be organisational problems if the training were not carried out. Then other programmes might be considered 'normally' needed by the firm. Finally, resistance to the training from management or staff produced problems



in carrying training out. These three states were made the definitions of the levels of organisational problems, receiving 2, 1 and -2 points respectively.

12.3.5. Next, availability of skill was found to be either present or absent, and was seldom a difficulty. So this criterion was restricted to a weighting of 1 point if the training skills were available. Lastly, it was found that in practice a number of programmes had to be given a slightly greater weighting if the request to train derived from management at Board level. While one of the aims of the priorities system was to prevent demands from senior levels overriding other training at short notice, it was clear that, in order to achieve this, some regard had to be paid to the status of those requesting a particular project. Consequently, one point was given to such training.

12.3.6. In the end, therefore, the points allocated in firm A were:

High cost/benefit ratio	2
Medium cost/benefit ratio	1
Low cost/benefit ratio	-2
Legal need	7
Partial legal need	3

Special organisation need (eg, new system)	2
Normal organisation need	1
Organisational resistance	-2
Availability of skill	1
Request from a director	1

These points were later changed in one particular, on discussion with training management in firm A, because it was felt that too much weight was placed on organisational resistance by awarding -2 points. So this was replaced by simply awarding nothing in such cases; in effect, 2 points were added to every programme concerned. The resulting priority orders are given in tables 12:1 and 12:2.

12.3.7. The same weightings were applied in firm B and a priority list was established (see table 12:3). In this firm the scheme had to be adapted because of the amount of time devoted by training staff to activities other than running training programmes as such. In particular, the two training officers whose priorities were studied were both concerned with adapting the firm's procedures to comply with the D.I.T.B.'s levy remission scheme. Because this was considered the main general priority, very little training was being done, and the individual programmes for one officer consisted largely of writing



PROGRAMME	POINTS	DAYS	£ APPROX. COST	£ APPROX. RESULT
Metrication	11	1	335	6000
Abrasive Wheels (Coventry Supervisors)	10	*	85	150
Eye Regulations	10	*	210	2000
Web Buckling	10	3	525	14000
Safety Committees	7	*	1670	4000
Supervisors (Coventry)	7	12	1850	24000
Export Regulations (Coventry Suprs.)	6	*	95	390
Goods Vehicle Legislation (Cov. Suprs.)	6	*	105	600
Wind Loading	6	2	420	5600
Falsework Design	6	40	11050	20000
Welding Symbols	4	*	385	300
Safety Committee Chairmen	4	*	860	2000
Social Skills for Technical Management	4	*	1760	7500
Quality Control	4	1	1905	15000
Louis Allan Refresher	4	7	2155	16000
Senior Management	4	9	3980	24000
Employment Legislation & Practice	4	10	2670	3500
Sales Refresher	4	11	23080	45000
Shop Floor Supervisors (incl. Coventry)	4	12	1100	16000
New Products	4	80	10170	120000
Sales Induction	4	115	18980	200000
Dictating Equipment	3	*	70	350
Scaffolder (Customers)	Each: 3	*	90	130
PAYE/Nat. Insurance/Pensions	3	*	190	300
Theory of Structures	3	*	670	6000
Coaching Skills	3	*	770	4000
Field Sales Management	3	*	2870	24000
Dutch Market - Design	3	5	3000	16000
Regional Sales Meetings	3	6	170	4800
Occasional Sales Refresher	3	7	1055	5000
Selection Interviewing	3	8	2980	24000
Louis Allan Basic	3	12	2515	9600
Trainee Development	3	13	750	12000
Shop Floor Supervisors (exc. Coventry)	3	18	1250	10400
Propping & Decking	3	18	2280	8000
Kwiktower (Stockists)	3	20	540	1600
P3 Parts Identification	1	*	115	2400
Recruitment	1	*	2090	50000
Credit Control	0	*	250	3000
Erection of Scaffolding (Customers)	0	*	980	900
Moment of Distribution	0	*	2480	8000
Shopfloor Supervisors (E.E.A.)	0	*	8500	40000
Appraisal Interviewing	0	4	950	10000
Uses of Data Processing	0	4	1220	1200
Technical & Admin. (Customers)	0	7	360	4000
Welding Appreciation	-2	*	3725	4880

\* = less than 1

TABLE 12:1 FIRST LIST OF PRIORITIES OF TRAINING IN FIRM A

PROGRAMME	POINTS	DAYS	£ APPROX. COST	£ APPROX. RESULT
Metrication	11	1	335	6000
Abrasive Wheels (Coventry Supervisors)	10	*	85	150
Eye Regulations	10	*	210	2000
Web Buckling	10	3	525	14000
Safety Committees	9	*	1670	4000
Supervisors (Coventry)	7	12	1850	24000
Export Regulations (Coventry Supervisors)	6	*	95	390
Goods Vehicle Legislation (Cov. Suprs.)	6	*	105	600
Safety Committee Chairmen	6	*	860	2000
Quality Control	6	1	1905	15000
Wind Loading	6	2	420	5600
Falsework Design	6	40	11050	20000
Welding Symbols	4	*	385	800
Social Skills for Technical Management	4	*	1760	7500
Louis Allan Refresher	4	7	2155	16000
Senior Management	4	9	3980	24000
Employment Legislation & Practice	4	10	2670	3500
Sales Refresher	4	11	23080	45000
Shop Floor Supervisors (incl. Coventry)	4	12	1200	16000
New Products	4	80	10170	120000
Sales Induction	4	115	18980	200000
Dictating Equipment	3	*	70	350
Scaffolder (Customers)	Each: 3	*	90	130
P3 Parts Identification	3	*	115	2400
PAYE/Nat. Insurance/Pensions	3	*	190	300
Theory of Structures	3	*	670	6000
Coaching Skills	3	*	770	4000
Recruitment	3	*	2090	50000
Field Sales Management	3	*	2870	24000
Dutch Market - Design	3	5	3000	16000
Regional Sales Meetings	3	6	170	4800
Occasional Sales Refresher	3	7	1055	5000
Selection Interviewing	3	8	2980	24000
Louis Allan Basic	3	12	2515	9600
Trainee Development	3	13	750	12000
Shop Floor Supervisors (excl. Coventry)	3	18	1250	10400
Propping & Decking	3	18	2280	8000
Kwiktower (Stockists)	3	20	540	1600
Credit Control	2	*	250	3000
Moment of Distribution	2	*	2480	8000
Shopfloor Supervisors (E.E.A.)	2	*	8500	40000
Appraisal Interviewing	2	4	950	10000
Technical & Admin. (Customers)	2	7	360	4000
Erection of Scaffolding (Customers)	0	*	980	900
Welding Appreciation	0	*	3725	4880
Uses of Data Processing	0	4	1220	1200

\* = less than 1

TABLE 12:2 REVISED FIRST LIST OF PRIORITIES OF TRAINING IN FIRM A



<u>PROGRAMME</u>	<u>POINTS</u>	<u>DAYS</u>	<u>£ COST</u>	<u>£ RESULTS</u>
Group Managers (Agency Office)	6	-	235	107,800
Mail Opening/Cash Office/Listing Office (if new system)	6	2	65	22,000
Technical/Systems	6	8	495	200,000
Debt Recovery Dept.	5	-	3580	34,800
Insurance Dept.	4	2	45	2,000
Mail Sorting Dept.	4	2	65	800
Typing Pool	4	2½	75	9,000
Extraction Dept.	4	2½	75	5,200
Sales & Services/Direct Despatch	4	20	1730	40,000
Instructional Techniques	4	36	6200	24,000
New Contract Forms	3	1	650	20,000
Claims Dept. (before computerisation)	3	10	190	1,000
Purchase Ledger Problems	3	12	360	3,200
Telephone Clerks	3	12	2245	28,000
Senior Management - Industrial Relations	3	25	2765	110,000
Induction	3	26	690	18,000
Mail Opening/Cash Office/Listing Office (if no new system)	2	( 2)	( 65)	( 22,000)
Claims Dept. (after computerisation)	2	(10)	390	( 1,000)
Training Officer	1	25	4140	1,600
Job Descriptions/Training Checklists	1	53	850	20,000
Merchandise Courses	0	-	1925	2,200
SNAF	0	3	225	3,600
Coaching Skills	-2	8	905	1,680

N.B. - Programmes listed by the margin are those of one training officer; those indented are another's.

TABLE 12:3 LIST OF PRIORITIES OF TRAINING IN FIRM B

job descriptions and training checklists for individual departments.

In this company, the points given were the same as the first revision of weightings in the other firm, and these were not changed. It was interesting, though, that the training manager in firm B felt that organisational resistance might need a greater negative weighting, rather than a smaller one as in firm A. This reinforced the belief that each firm should be prepared to determine its own weightings.

The value of the system was appreciated in firm B, in that the training department felt that the legal implications of some training were not fully grasped by management. However, the system's success was limited by the overall priorities of the training department, which changed faster than the time available for developing the system could cope with. Having been directed largely towards the requirements of the D.I.T.B. for levy-remission, the department was suddenly instructed to put its resources instead into assisting an associated company which had management problems. Thus, by the time the priorities had been calculated, they were already out of date.



12.3.8. It was clear from the initial studies in both companies that, to be of most value, the system would have to be installed and then run for a length of time to see what development in priorities occurred. Resources were not available for this to be done completely, but in Firm A a second analysis of training programmes was made some four months after the first. This resulted in an order that was modified by a number of factors (see table 12:4) - in particular, a programme might be omitted because it was now complete, a projected programme might be added, and the points for a programme might be changed after it started under way (and thus as the projected costs and results in particular, changed). In principle, the same procedure could have been followed in Firm B; but it did not seem worthwhile, in view of the speed with which the planned training programmes were changing.

#### 12.4. Comparison of Costs and Benefits

12.4.1. From the estimates that were made of the costs and benefits of the various training programmes in each firm, and from the orders of priority produced, it was possible to assess the cost/benefits of carrying out different amounts of training. This was based on the assumption that the training would be carried

PROGRAMME	POINTS	DAYS	APPROX. COST	APPROX. RESULT
Eye Regulations	10	*	75	650
Web Buckling	10	*	130	12000
Safety Committees	9	*	1670	4000
Employment Legislation & Practice	7	2	550	750
Supervisors (Coventry)	7	12	1850	24000
Export Regulations (Coventry Supervisors)	6	*	95	390
Goods Vehicle Legislation (Cov. Sup'rs)	6	*	105	600
Safety Committee Chairmen	6	*	860	2000
Quality Control	6	*	2130	17000
Wind Loading	6	1	275	11200
Falsework Design	6	20	5450	10000
Welding Symbols	4	*	195	400
Financial Appreciation	4	*	1090	8000
Social Skills for Technical Management	4	*	1760	7500
Louis Allan Refresher	4	7	2155	16000
Senior Management	4	9	3980	24000
Sales Refresher	4	11	23080	45000
Shop Floor Supervisors	4	12	1200	16000
New Products	4	80	10170	120000
Sales Induction	4	115	18980	200000
Scaffolder (Customers)	Each: 3	*	90	130
P3 Parts Identification	3	*	115	2400
Theory of Structures	3	*	670	6000
Coaching Skills	3	*	770	4000
Field Sales Management	3	*	2870	24000
Regional Sales Meetings	3	6	170	4800
Occasional Sales Refresher	3	7	1055	5000
Selection Interviewing	3	8	2980	24000
Propping and Decking	3	10	1520	5000
Louis Allan Basic	3	12	2515	9600
Trainee Development	3	13	750	12000
Shop Floor Supervisors (exc. Coventry)	3	18	1250	10400
Credit Control	2	*	250	3000
Moment of Distribution	2	*	2480	8000
Shopfloor Supervisors (E.E.A.)	2	*	8500	40000
Appraisal Interviewing	2	4	950	10000
Technical & Admin. (for customers)	2	7	360	4000
Welding Appreciation	0	*	3725	4880
Uses of Data Processing	0	4	950	10000

TABLE 12:4 SECOND LIST OF PRIORITIES OF TRAINING IN FIRM A



out in the order of priority established - not necessarily in strict sequence, but on the principle that, over a period of time, all the training up to a determined point in the order would be carried out.

In each of the two firms, it was possible to construct curves to represent the cumulative costs and benefits estimated (see figures 12:2 and 12:3), plotted against the number of man/days of work in the training function.

- 12.4.2. The immediate inference from these curves and from the curve of net benefits which was derived by subtracting costs from benefits at each point, is that in total the estimated result from training is much greater than its cost. In the case of the scaffolding company the initial programmes involved a net loss on training, but this soon becomes a positive benefit as more programmes are carried out.

A further conclusion to be drawn from the curve of net benefits is that it is possible to identify certain amounts of training which bring about optimum returns from a training investment. It does not seem possible to identify any points of maximum net benefit, since at nearly every point the benefits

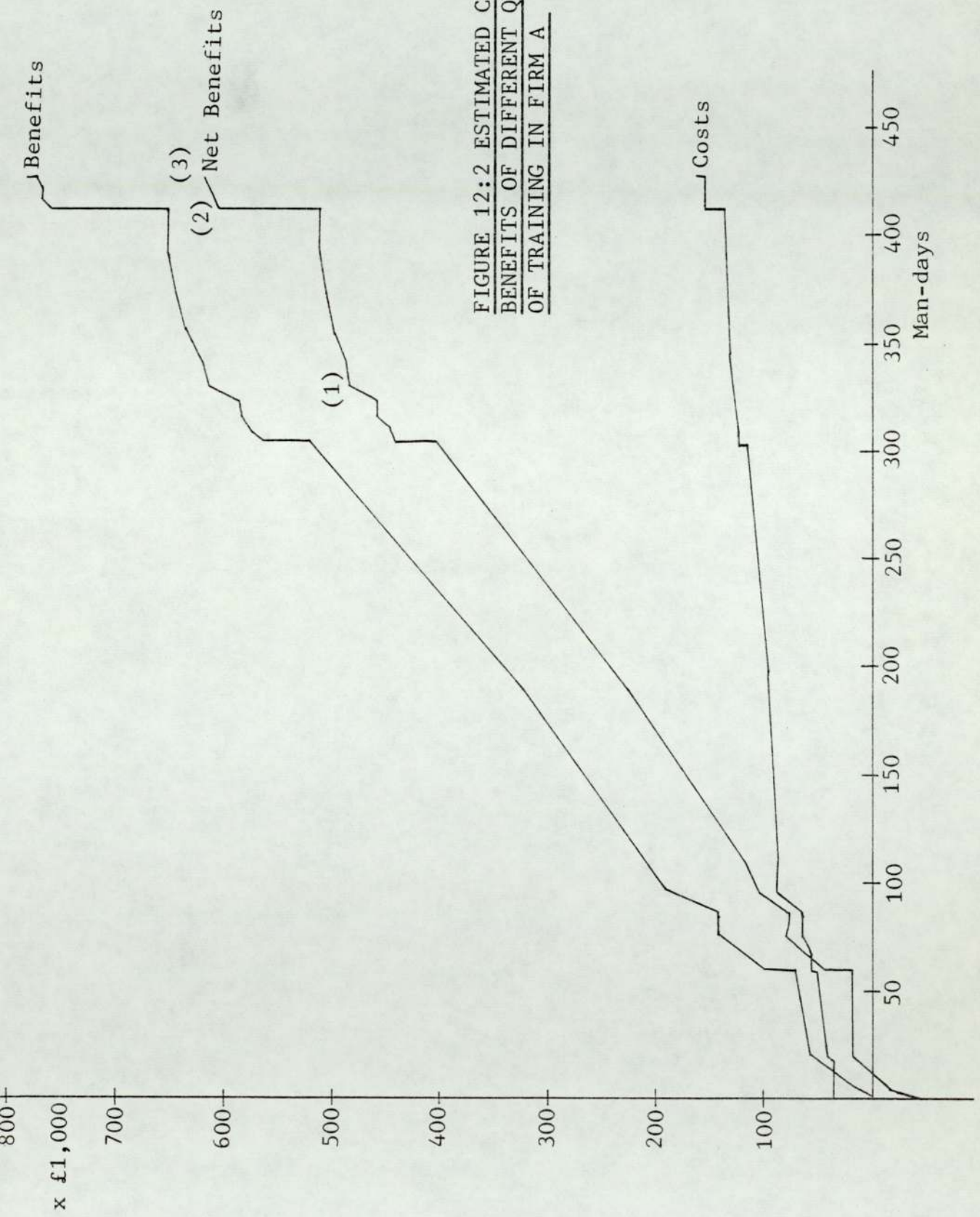


FIGURE 12:2 ESTIMATED COSTS AND BENEFITS OF DIFFERENT QUANTITIES OF TRAINING IN FIRM A



estimated from the training exceed the estimated costs, although one can imagine circumstances where this might not be so. But there are points which stand at a greater gradient from the graph's origin than other nearby points on the curve, and which therefore indicate amounts of training providing better return on investment than amounts slightly more or less.

Thus in figure 12:2, representing the study in Firm A, maximum return on investment occurs at the point marked (1) on the graph, after programmes involving 329 man/days. However, this return is little more than at the point marked (2), after programmes involving 410 man/days, or at point (3) where all programmes are carried out.

In the case of the Firm B (figure 12:3), the position is slightly different because a few programmes with the highest priority have a high estimated net benefit for the outlay of very few man/days of work. Consequently, the best return on investment (1) appears to be when almost no training is carried out, and the next point which is a local maximum (2) involves considerably more resource input - 135 man/days, in fact.

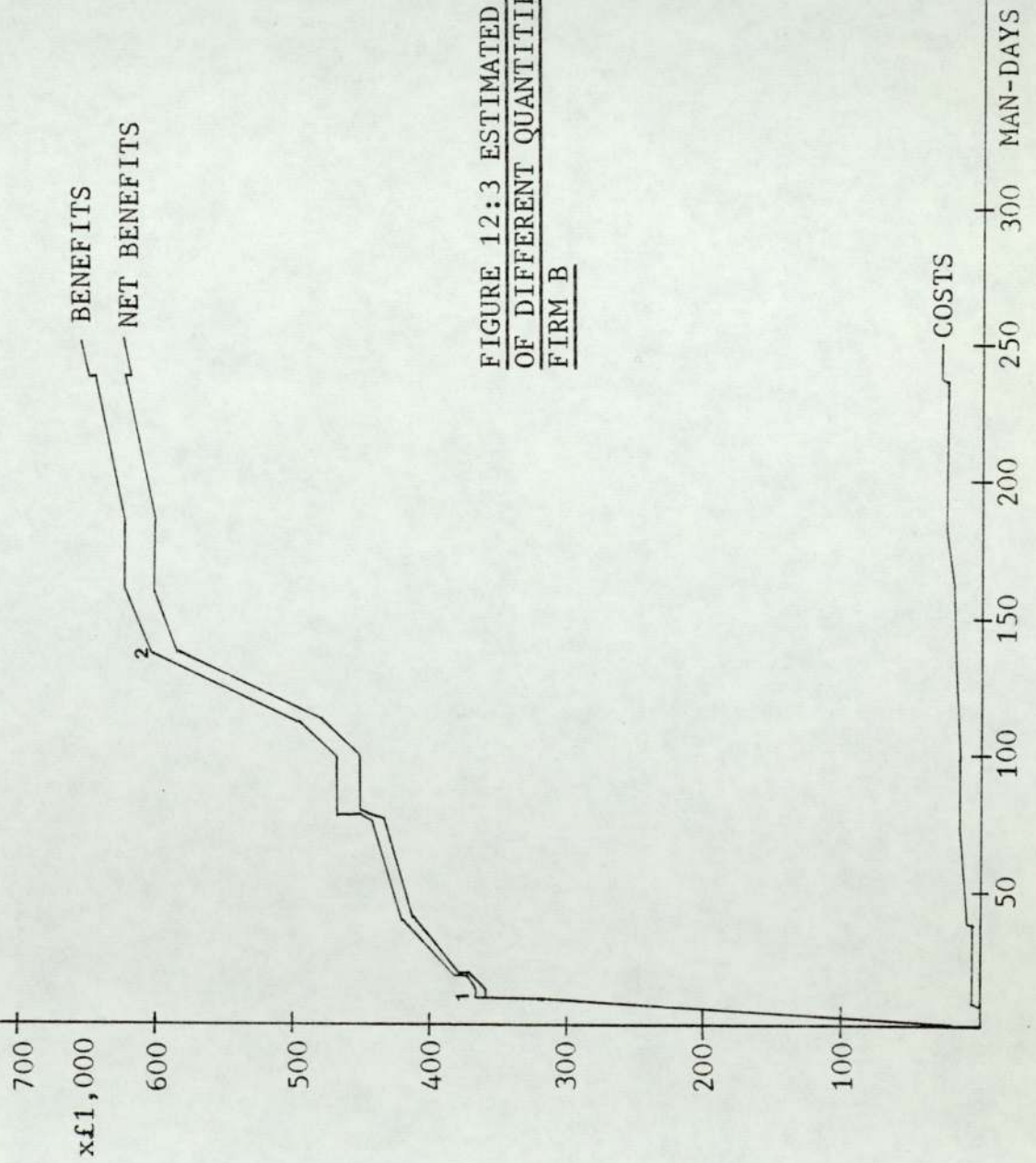


FIGURE 12:3 ESTIMATED COSTS AND BENEFITS  
OF DIFFERENT QUANTITIES OF TRAINING IN  
FIRM B



12.4.3. In neither of these two cases can the curves alone be used to produce a firm decision on how much of the training is worth while. The estimates are not accurate enough for that. However, they do suggest points up to which training might be carried out, given the appropriate number of training staff.

## 12.5. Conclusions

12.5.1. The system was, then, found to produce a feasible order of priorities for training programmes, but only after it had been modified into the form given in figure 12:4. From this, the estimated net benefits at different levels of priority were assessed, so that it appeared valuable in assisting decisions on how to balance the supply of resources with the demand for activities. The value of the system will be discussed in more detail in chapters 13 and 14.

12.5.2. It was clear that the precise weightings of the points scheme would need to be designed according to the local circumstances of each firm in which it is used. Also, modifications might have been needed in running the system continuously for a period of time; the evidence in one firm showed that training

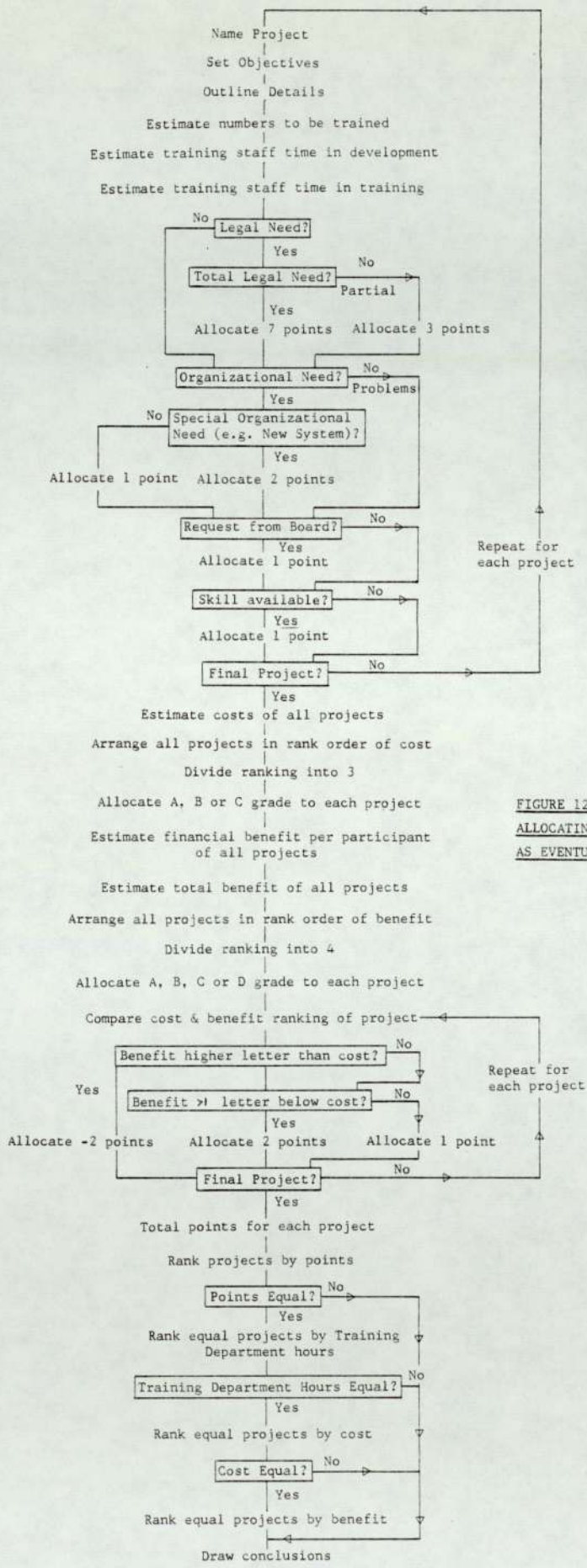


FIGURE 12:4 ALGORITHM OF PROCESS FOR ALLOCATING PRIORITIES TO TRAINING AS EVENTUALLY USED



projects could be interposed in, or removed from, the list, but equally experience in the other company indicated that, where priorities were changing fast, the system could not always keep pace. It is evident that it needs further development.

## CONCLUSIONS OF THE RESEARCH

"True wit is nature to advantage dress'd,  
What oft was thought, but ne'er so well expressed;  
Something, whose truth convinc'd at sight we find,  
That gives us back the image of our mind."

(Alexander Pope, *Essay on Criticism*, 297-300)

*The results of the six case studies are now analysed, and compared with the hypotheses of evaluation in each case. The bacon preparation and customer relations case studies had results which justified training, though various reservations need to be made about the methods used. The other four studies achieved success in different aspects, and each contributed in its own way to the information available on evaluation. Evaluation is reckoned to be feasible, although it is doubtful whether financial estimates can be made of all results, and so assessment should be on a conservative basis. A number of the difficulties anticipated were confirmed, and thus statistical approaches seem seldom possible; but methods are available for determining the best emphasis of training in many cases, although the theory of what types of training are most easily evaluated is still largely conjectural. Of the actual training carried out in distribution, it is argued that some is cost-effective, and a number of circumstances are identified when this is more likely, and problems mentioned which might interfere with the cost-effectiveness in individual cases. Finally, the general approach to the research is briefly reviewed.*

### 13.1. Analysis of the Case Studies

- 13.1.1. Six case studies were carried out, in addition to the preliminary work in planning and establishing



the feasibility of the research. It was possible to draw a number of conclusions about the specific training that was being investigated, but it is now necessary to analyse the findings which relate to the methodology of the evaluation techniques. If the case studies are discussed one by one, it will then be possible to draw a number of conclusions about the evaluation and the training in general.

13.1.2. Bacon Preparation

It will be recalled that the hypothesis which the evaluation of the bacon training was intended to test, was that changes in the criteria chosen would indicate the extent to which improvements had occurred which justified the course (see 7.2.3. supra). In fact, the evaluation techniques provided evidence satisfactory enough to justify the training, but in doing so encountered a number of practical and conceptual difficulties, which need to be discussed.

First of all, a striking feature of the results was the difference in the results when the effects of the control group were considered. Although the general conclusions were not greatly affected by this, it appears that the technique of choosing

units in the same geographical management area as controls was not sufficient to ensure comparability between the trained and the control branches. Although it might be supposed that the existence of small and apparently similar units might provide a useful method of comparing the effects of training and of not training, the case study casts some doubt on this; to a point, this confirms the experience of Crossley and of Lewis and Steed in parallel contexts. The difficulties in establishing a control group were compounded by other issues, including the early destruction of many of the records from which data might have been derived. Also, an employee of a firm might have been able to use his detailed knowledge of the work environment to establish controls; since the researcher was from outside the collaborating company, however, he did not have knowledge available in such close detail.

It happened, nonetheless, that the most striking result of the training was not affected by the composition of the control group, since the benefit from being able to deploy the bacon cutter in Branch A on other duties was not dependent on a comparison with other branches. It is worth noting, therefore, that substantial returns can be made



from a judicious choice of participants for training, which allows greater flexibility in the deployment of staff; as in this case, such returns may exceed the improvements in output.

Additional difficulties in method arose from the need to isolate the effect of training one individual in a branch where a number of staff operated in bacon preparation. It became clear that each participant's performance had to be studied on its own, because of the different circumstances of each employee and each branch. This recalls the finding of Lewis and Steed, that where a number of branches were trained, the performance of each branch had to be considered individually. Its effect is first, that it is difficult to generalise about the improvement consequent upon training, and secondly, that it casts doubts over the value of statistical methods in this type of research. Thus it has been noted (see 7.3.2. supra) that it is generally impermissible to compare individual results with controls grouped together, and hence unless it is feasible to establish paired comparisons it is unlikely that statistically significant results can be obtained.

A further conclusion which restricts the findings as far as this evaluation is concerned, is that the number of individuals trained on the one course was small; again this has implications in terms of statistical treatment, because if the participants are considered as a sample, they are a sample of unsatisfactory size.

All in all, then, the conclusions from this case study have to be stated with caution. However, it is worth noting that, as expressed, the estimates of benefits have been made on a conservative basis, and represent the minimum value of the training that can be financially assessed. Its actual value is hopefully rather larger. In the first place, changes in sales, wastage and hygiene were only some aspects of the total effects of training; many others might well have existed, often not suitable for quantifying. Secondly, to quantify the results of improved hygiene was particularly difficult, and only minimal financial benefits were attributed to this. Thirdly, the assumption that results would last for only one year might have been an underestimate, as the typical employee remains with the firm for longer than that. Fourthly, no direct result was measured for the participant who received no practice after the



course, and only a minimal result for the one whose practice was short; as those too were expected to follow management careers, however, their training in bacon may have consequences in future years of which no estimate was possible. A fifth point is that no estimate was made of the bacon processed for sale during the course, work done by staff whose employment costs were being attributed in full to the training. And lastly, the major element in the costs was the pay of those involved, with no account taken of whether their time would have been fully used if they had not been on training, or whether some of it might have been slack.

Thus it is reasonable, on many accounts, to suppose that the results of this training were at least as large as the estimates made, and the question which remains is whether further effort at identifying and measuring the results more closely would have been worthwhile. The problem of how much effort in evaluation is justified by the end product will be discussed further in due course (see 14.2 *infra*).

### 13.1.3. Customer Relations

As far as the case study into customer relations training is concerned, it seems that the hypothesis

of evaluation was verified to an extent large enough to justify the exercise, although not totally. The logging of the results of training by participants suggested substantial benefits from the course, even accepting the limitations of this methodology. The managerial ratings, on the other hand, were not carried out in a fashion that was satisfactory to identify changes in job behaviour of the participants.

It was noted that the bulk of the incidents reported by the participants dated from the period immediately after training took place. This must cast some doubt over the accuracy of the information acquired by what is clearly a highly subjective system, although the inference would be that the incidents were underestimated rather than exaggerated - which conforms with the principle of erring on the side of conservatism. Again, some potential results from training seem not to have been measured - such as increased sales on a customer's first visit, from greater courtesy or familiarity with systems. On the other hand, the total estimate of benefits which was made included certain assumptions. First, it assumed that changes in behaviour during incidents in the first few days would be maintained over a longer period; and secondly, it included estimates of other



variable factors, such as the average profit margin on goods sold.

There is little reason to suppose that the benefits were overestimated, but it is still appropriate to stress various other conclusions that could be drawn from the study. One of these related to the approximate breakeven points between costs and benefits when different numbers of staff were trained, which were seen to be fairly resilient to the numbers of approximations in the study. Another concerned the findings about the departments for which the training was most suitable.

One problem which complicated the measurement of the results was that a number of participants changed their departments within the weeks immediately after training. This made it difficult to draw firm conclusions about the extra profit generated by these staff, and it is also one of the reasons for the poor response to the managerial assessment exercise. However, such difficulties as this did serve to illustrate where problems in evaluation lay, and helped to improve the general awareness - among trainers, managers and the researcher - of the important aspects involved in assessing training. Discussion with the training officers indicated that

the exercise was a useful piece of action research, in that it promoted this awareness, and an appreciation for the objectives and subject matter of the training developed among management. Trainers were given advance information about the various participants, so that they were in a position to adapt the course material where necessary. The research also indicated cases where individuals were being sent for training even though, in their manager's opinion, they were already of high competence in the subject being trained. And, in general, the techniques used in this case suggested a broad methodology which might provide a continuous evaluation system for any training, by creating methods of communication between trainers; participants and management; this might contribute to the mutual awareness of what courses such as this might achieve, and how best to achieve it.

#### 13.1.4. Management Development

In the case of the management development case study, the hypothesis was that the techniques used would provide a comparison between the costs of training and the value of the staff employed. This was achieved, although no assessment was possible of what benefits training might have produced, or of



what added value staff might have had as a result of training.

Because the methodology provided no information on the results of training, a validation study was needed to accompany it. This discussion with participants and their managers was successful in that it highlighted various weak points in the training system, especially at the interface between the course and the jobs of those trained.

The human asset valuation was seen to be a feasible model, although it is clear that greater detail could have been achieved had further effort been made in 'running' it. In particular, the term of eight years, though there was a reason for choosing it, was somewhat arbitrary, and the model could have been run for longer. Also, only the mid-point of each salary range was used to evaluate staff careers, so that no account was taken of incremental earnings on salary scales. Thirdly, the salary and grade structure was in the course of change, so that some grades had to be combined to present a fair picture of the numbers of members and their movement.

It is, though, quite possible to imagine how these shortcomings could be met, and the model used in

other circumstances. The use of a computer might well save time and effort in this connexion, and the system might be used over a period of time - perhaps annually - to evaluate human assets; thus management might become aware of the effects of changes in staff turnover. This exercise would be of value, since staff turnover in the national economy was low during 1975-76, the years for which the analysis was made.

Two other points need to be made about this case study. While the method used gives an estimate of the minimum proportion of staff whose training is certainly justified - assuming that some training is to be carried out - it does not help management identify which staff are in the percentage who should definitely be trained. Further research would need to be carried out (see 15.1.4. *infra*) to develop a model to distinguish which staff are likely to stay longest or to be promoted. While Speth (1977) has reported that a little work in this field has been carried out in the U.S.A. (Mondy, 1974), nothing of application to British retailing is known. Without such information, the method is mainly of use in the long term to control the value of training from one year to another, by checking whether the proportions who should certainly be trained is changing.



The final conclusion is that any exercise in evaluation is made difficult when course membership cannot be fully identified in advance. On the occasion of the course analysed, a list of participants was prepared in advance, but a substantial number of changes were made to this immediately before the training, which meant that the discussions with participants and managers were incomplete, and some had to take place during a break in the course. This was undesirable, but such changes did not seem to be unusual in distributive training.

#### 13.1.5. Sales Training

The evaluation hypothesis for the sales training case study anticipated that changes in sales would be measured by the two methods described. In the event, it was impossible to judge whether these methods could have achieved this, as the changes in training plans within the company prevented their full implementation. One method, observation of two of the participants, was carried out only once, and its results did not suggest that the training was strikingly beneficial. The other was not attempted at all, because the study had to be called off.

There were effectively no conclusions about the training, and it is thus no surprise that there can be none about the evaluation. Nevertheless, the case study does illustrate the danger of problems in the training design or execution causing an interference in a test of evaluation methods, problems which had been anticipated (in 2.3.3.). From the start of this research, it had been clear that the work would need to be carried out in an environment favourable to training (see 2.3.2. supra), and the experience of some of the studies considered but not carried out was confirmed in the case of the sales training.

One 'conclusion', then, is that training plans must be adhered to if any evaluation method is to be tested. One could go further and point out that it is unlikely that the training itself provides the maximum return if it is totally redesigned during its course; this can hardly fail to waste effort.

The exercise was useful, however, in that it suggested how the cost/benefit model might be used to compare different types of training. Although this conceptual scheme could not be put into effect, it was noted that costs and benefits might be calculated for different amounts of training received by



different groups of participants, so that not only might the optimum quantity be calculated for a number of groups, but the groups most in need of training could be identified.

13.1.6. Unified Vocational Preparation

It was hypothesised that management would acknowledge an improvement in the participants' contribution to their work as a result of the U.V.P. training and that this would be measured by the rating scales. In addition, it was intended that the participants would themselves appreciate the benefits of the course, and that the costs of the course would be identifiable but not comparable in any way with the benefits.

These hypotheses were verified, with the exception of management's appreciation, where attitudes appeared to be limited by their original expectation of the course. In addition, the analysis of the costs of training provided other conclusions, one of which was the weakness isolated, relating to the number of participants. This is then suggested as an improvement for future courses, which might do well to involve more people.

The major reason why it was impossible to cost the results of the training was the lack of clear agreement on what type of benefits should be sought. While the course had objectives, these covered a number of fields, and it was evident that different individuals stressed different aspects, while some management had doubts about many of these goals. Additionally, however, there were major problems arising from the absence of any controls in the study, which seemed to relate to a reluctance among employers to participate in this sort of exercise.

In this instance, then, both the problems identified in Chapter 3, of determining the results to be measured, and of contamination, interfered with the evaluation. Nonetheless, just as the customer relations case study proved to have value as action research, so too this enquiry illustrated the role that research into evaluation could play in providing feedback, hopefully to improve training. It was clear that the presence of an evaluator would add to the cost of the course, as was shown in figures 11:1 and 11:2; equally, the exercise pointed out various weaknesses in the training, and was thus likely to have added to the benefits, although there was no demonstration of this in financial terms. This will be discussed in more detail in 14.2., *infra*.



### 13.1.7. Training Priorities

Finally, the study of the priorities system needs to be analysed. Its hypothesis was that an appropriate order of priority could be successfully established, and this was done. The method by which it was achieved does touch on a few issues which need to be developed.

It was only possible to provide rough estimates in advance of the projected costs and benefits of each project. At the same time, they were estimates based on a systematic procedure; and, since the planning of training inevitably involves a number of unknown factors, the system is likely to be as easily workable as the methods are of making these estimates. In this context, the curves of costs and benefits can be interpreted, as giving an idea of the magnitude of the training activity under way, and thus showing whether there were any very clear points at which further training would produce a worse return. Thus it was evident that the concept of cost and benefit curves could be applied to the priorities system, although, if more exact methods of estimating these were developed or used, the model would be of far greater value.

The cost/benefit assessment, though based on estimated figures, awards points by comparison between groups of programmes. Since the points rating for any programme is based on grouping it with others that appear similar in costs and benefits, the effect of inaccuracies in the estimates should be minimised. Hence the system seems to be a feasible one to use in determining training priorities, although it would need to be installed and kept up to date for a considerable period before its full value could be assessed. Presumably, it would be most effective if used as part of a decision-making procedure on what resources to make available for training. The company called firm A did draw up a training plan at the same time, to cover the months during which most of the programmes were intended to run, so that those which had priority could be scheduled more closely.

One final point should perhaps be reiterated. The precise weightings of the points scheme would need to be designed, if the system were used again, according to the local circumstances of the firm in which it was to be used. In general, the nature of its use would involve local management in decision-making, just as its conclusions will only be interpreted into action when the evidence provided



is weighed up by management. This is one of the main themes of this case study, as indeed of all this research: that techniques such as those tested can do no more than provide limited information, which will need to be balanced against the other considerations of management before it can be put to good use.

### 13.2. The Model of Costs and Benefits

13.2.1. The model of costs and benefits, described in Chapter 4, has been used, or has been shown to be conceptually appropriate, in a variety of training situations. This indicates that, as a model, it is robust enough to represent many different problems of training. Nonetheless, it is clear that its full potential has not been realised, perhaps above all because of the great amount of estimation that has been involved in each case study. The words 'estimate' and 'assumption' have been in frequent use throughout the last few chapters. In some ways, it seems that the main findings of practical value in the research have arisen as side-effects of the model, rather than as a central part of it. So a number of conclusions can be drawn about the function of evaluation in distributive training, and also about the training itself; these will be discussed shortly (13.3 and 13.4 infra). Some of them are, however, not

consequent on the use, or the accuracy, of the cost/benefit model. This is perhaps inevitable, in view of the approximation which was involved in much research in this field.

#### 13.2.2. Costs of Training

Nevertheless, certain points may be made about the nature of the cost/benefits. Thus the results of using the model will depend in part on the variable that is chosen to represent the quantity of training along the horizontal axis. If length of training is used as this variable, for example, there is a tendency for the fixed costs to be fewer than when the quantity is represented by the number of participants. This is illustrated especially in the U.V.P. example, where it was possible to isolate the fixed and the variable costs under both conditions. The reason for this appears to be that, with the approach to costing that was used, most of the training overheads were allocated on a daily basis over the training carried out; hence these overheads became costs that varied with the number of days of training - that is, its length. It is worth speculating whether, if the training had been carried out in a situation where a training department was already established and additional courses were to be considered, it might have been



possible to consider much of the department's cost as fixed. A salient difference here might in fact be that the horizontal variable would resemble the number of courses rather than their length, and the situation would be more like that in Chapter 12, where the priorities scheme was shown to fit the model.

It is clear, then, that, in general terms, fixed and variable costs can be distinguished, though with this proviso, that the choice of horizontal variable will affect the distinction. In addition, there were some occasions where the relationship was not perfectly linear (as in the management development study), or where it was clear that further extrapolation of costs would involve larger marginal increases (as with the customer relations training, after the point was reached where a larger training room would have been needed to train more staff). The concept of the cost curve has thus to be adapted slightly from its original form in the hypothesis of Chapter 4.

The case studies suggest that it is the variable costs that are of most importance in situations where the optimum quantity of training is to be determined; thus in the research on bacon the staff

whose training was justified were those whose estimated contribution as a result of training exceeded the variable cost of training them. This verifies what would be expected; for the net benefits increase as long as marginal benefits exceed marginal (that is, variable) costs. It also accords with the conventions of cost/benefits analysis in accounting, where only those costs which are not already sunk are given consideration; this is one of the themes stressed by Dewhurst (1972) in his writing on the subject. In these studies, the sunk costs would be the ones that were 'fixed' by the decision to run training and to set up a 'training function' (the existence of which was assumed in 4.1.7.). Then it is the costs that are not sunk which need the main emphasis. It will be recalled that one of the points which needs determination when the priorities system is used, is whether costs are marginal or not (see 12.2.5., supra)

### 13.2.3. Benefits of Training

The general hypothesis, as stated in 4.4.1., has been confirmed by the research, insofar as it has been shown that costs exist and can be measured, providing the appropriate expense heads are anticipated, and providing adequate records are kept. As far as the benefits are concerned, it is clear



that not all the issues dealt with by the hypothesis have been established. A number of the benefits listed were observed, but a few were not.

The most common benefit appears to have been a change in output. This was recorded in the bacon training - though with some reservations as to the method - and confirms the experience of other studies mentioned in Chapter 6. Thus Hillman's record of improvements in absenteeism and accidents fall partly under this heading (and partly under changes in errors). Butterworth's record of faster checkout operation, the increased sales of the cosmetics firm and of Lewis and Steed, and the faster work of the pickers and packers - these all indicate circumstances where output can be increased by training; it is arguable that Crossley's research provides another instance.

As far as changes in the numbers of errors are concerned, there are, besides Hillman's example, two cases of this. The first is clearly from Butterworth. The second is from the present studies, and relates to the savings made in the department store after training in customer relations. The incidents recorded were, in effect, occasions of potential error which seem to have been reduced

(in number or in magnitude) by the improved performance of the employees.

The third suggested benefit, the value of the consequence of the participants' absence from the job, was noted in the sales training case study, as was the fourth, the value of slack time. Here it was noted that, for much of the time spent on training, they would not have been used productively had they remained on the job; however, a small probability existed that sales had been lost by removing them from the job. These were both taken into account when estimating such benefits as could be identified in this case study.

Productive output during training was one of the projected benefits that was not measured in this research, although it was clear that the bacon case study must have involved some examples of this; this point has been commented on above (see 13.1.2). Another result not recorded was the differences between the training and other investments, and this was so because none of the situations studied involved a comparison between different types of training, or between different investments which included training. The nearest examples of this are those from the mail order firms described in



Chapter 6, where the length of training was shortened. It was at one point intended that the bacon case study should compare the course studied with other methods of training which were carried on previously, but as these other methods were no longer in use by the time the research was carried out this was not feasible. This illustrates one of the procedural problems of evaluation - that it is sometimes necessary to carry out training that is believed to be inferior, so that this belief can be checked. It also suggests the value of integrating evaluation into the design of training, so that when new methods are considered, their benefits may be tested.

Finally, benefits were anticipated from changes in the attractiveness of employment, and again these were not found in any of the research carried out. On the other hand, Hillman's example reported improvements in staff turnover, as did the case of the secretarial training. It seems likely that a human asset evaluation would measure such changes, if it was carried out over an extended period of time, so that rates of turnover and values of staff could be compared from one moment to another.

#### 13.2.4. Net Benefits of Training

Hence, although it is clear that training has benefits, their precise identification is still in certain instances an assumption. In some cases, why they were measured against the quantity of training, they behaved with diminishing returns, as predicted in the general hypothesis. However, this curve was generally only of the most approximate nature, and, where numbers of staff were the horizontal variable, they were arranged in order of diminishing returns to exhibit a curve of the appropriate shape (as in figures 7:2 and 7:3). In certain cases the curves appeared to be scarcely subject to diminishing returns at all because the benefits, up to the point measured, were so great that no reduction in return was noticed; examples of these include the curves in figure 8:1 for the larger numbers of participants, and the curve of the priorities system at Firm A (figure 12:2). Hence, while the general conception of a benefits curve of diminishing returns is not inappropriate, the range of training situations modifies its form dramatically in practical applications.

13.2.5. The various problems involved in measuring benefits have now been identified, and it only remains to note that they were largely as had been anticipated from



the preliminary studies and the literature survey (Chapters 2 - 4). Thus they fell largely into the two classes, of identification of criteria - related to problems of objectives and to accuracy of data - and of contamination by external factors, where serious impediments existed to the use of controls. From these problems, though, a great deal was learnt about the conditions necessary for carrying out an evaluation study, and these will shortly be discussed (13.3., *infra*).

13.2.6. The final part of the hypothesis suggested that costs and benefits were comparable with each other, and that curves of net benefits could be constructed from this comparison. This was seen to be so, where it proved possible to express the benefits in financial terms - which was not always. However, sometimes the benefits were so great that they scarcely exhibited diminishing returns, so the curves of net benefits in many cases had no visible maximum points. In most cases, minimum points of net positive benefit were identifiable, though often they were ridiculously small, as in the customer relations case study. But the other points which it was expected would be apparent were often not in evidence at all; thus there was certainly no training studied where such a great quantity was being carried on that the costs

cancelled the benefits out, or even where a sensible extrapolation made this appear likely.

While this may be taken as partly falsifying this part of the hypothesis, it errs on the optimistic side; for it suggests that training, so far as it was measured, was extremely beneficial. However, the whole issue of these curves needs a great deal of further analysis, in particular because of the problem of the number of estimates (some might even say 'guesstimates') involved in their construction. This is certainly one of the major difficulties in the field of evaluation research at the stage it has reached, and it is not unreasonable to suppose that if some thorough system was used to cost training, such as the one detailed in Chapter 5, at least some of this approximation would be reduced.

As it was, the approach to costing already used by the collaborating firm provided estimates in each case of both costs and benefits, and this had some unfortunate effects. Thus the figure built into the training costs to represent employment overheads was simply a percentage for national insurance in the bacon case study, but was national insurance plus 10% in the study of customer relations training, and was 33% in the sales training example. Although this



type of problem did not invalidate the hypothesis, it did restrict its use as a practical tool of general applicability. The more immediately useful conclusions of the research tend to be connected with the approach to evaluation as a whole, and with the nature of distributive training.

### 13.3. The Evaluation of Training

#### 13.3.1 Limits on Results

An additional problem discovered in the field of training evaluation has been that most of the studies carried out hitherto, and most of the interests of managers, have been concerned with measurement at the level of job performance, rather than of cost/benefits. Consequently, there has been a tendency to 'translate' changes in performance into financial terms, and this is one of the reasons for the degree of estimation in the calculations. This was commented on in connection with the previous work in this field (see 6.2.11 supra), and the other case studies tended to confirm it. It appears necessary to conclude that some doubt exists over whether financial values can be meaningfully attributed to many fields of training. This is confirmed by experience in, for instance, trainee development, where the aims of the training are inexact, and the timescale over which results are intended is

extremely long.

13.3.2. Conservatism

Because of this type of measurement problem, it appears essential that estimates of cost/benefits should be made on a conservative basis. This confirms the opinion of Murdick (1960) on the consequences of the uncertainty of training returns, and is reinforced by a number of other reasons observed in this research. First, there are evident difficulties in establishing controlled experiments in this field; here the experience of the bacon and U.V.P. studies confirmed the findings both of Crossley and of Lewis and Steed. Secondly, there is in many cases doubt about the accuracy of the records kept in the industry, whether specifically for evaluation or for other purposes. In the studies that were abandoned, it was noted as a problem that many records were destroyed too soon to allow any lengthy study (see 2.5.3.) and there is also the issue - noted in the bacon case study - of the accuracy of such statistics as are kept. Thus some branch managers were sceptical about the wastage books from which some of the data for the bacon study were collected. It seems self-evident that proper record-keeping is a sine qua non of evaluation, and that this requires adequate management of the research.



A final reason for conservatism in approach is the lack of accurate advance information about the training. In particular, it seemed difficult to determine properly which employees would participate on courses. This was remarked in a number of instances, and especially with the course observed in the management development study. Apparently, courses in distribution (though there is no reason to suppose other industries are greatly different) frequently have their membership changed at the last moment. This makes it difficult to take measurements of participants in advance, and adds further uncertainty to the results observed.

### 13.3.3. Statistical Approaches

Another conclusion that follows from these difficulties is that, in general, it is hard to apply a statistical approach to evaluating training. Even if the conditions did seem appropriate, despite the reservations above, problems are to be expected because of the variety of conditions in the participants' environment. This variety makes it difficult to group a range of results together, and sometimes tempts the research to compare data from individuals with statistics of control groups. This appeared to be a solution to the problems of diversity in the bacon study, but was rejected as

being conceptually impermissible. In principle, it might be possible in an industry like distribution to carry out research with a paired comparison design, since there might be different branches or departments similar enough to be grouped into pairs. This was not attempted in the present research, but the experience of Pritchard and Sienko (see 6.1.10 supra) in testing such as design is not encouraging. In addition, the numbers trained at any one time in most areas in the industry appeared to be small. The membership of 17 on the retail management course in Chapter 9 was most unusual, since most of the groups observed under training numbered between four and six, and it was clear that some firms (such as the supermarket using video programmes, in 2.5.5.) were training their staff singly. This again makes it harder to design research that can be analysed in terms of statistical significance.

In theory the existence in this industry of many firms with a number of branches or departments would suggest a methodology for comparing the effects of training with those of not training, or of different types of training, or of training in the better and in the less good units (as was suggested by one of the hypotheses considered in 2.5.8.). Such a technique was once attempted in an American insurance



agency with many branches (Baxter, Taaffe & Hughes, 1953), though its results were not particularly encouraging. It is interesting to note that in fact such an approach will face a host of problems. One study at the learning level, carried out in a large London store (Taylor and Reid, 1965) reached this same conclusion, that:

"the situation in which small numbers of trainees are sent out to a large number of small departments made it unlikely that comparability of assessments could be ensured".

The inference is that each unit needs to be studied as an individual element, as Lewis and Steed were obliged to do. It may still be possible, as in their case, to conclude that the best results from training are achieved where previously performance was poor; but the methodology which demonstrates this is likely to have little statistical content.

#### 13.3.4. Difficulties in Evaluation

The research has confirmed a number of the reservations about evaluation which were formulated in the early chapters, such as the problems of the reliability of records. One of the most important of these concerned the role of objectives; in a number of the cases studied, it was not totally clear what the objectives of the training were. What was

clear, however, was the possibility of formulating what have been described in this thesis as 'hypotheses of training', which attempt to formulate the assumed achievements which training is intended to have. This accords with Gibb's conclusion (Gibb, 1972) that standards are often developed by the process of evaluation, rather than as a preliminary for training. Hypotheses were established in each of the six case studies carried out, except for the priorities system in Chapter 12, where it was a management system being tested, rather than any specific training. In practice, these hypotheses correspond to at least some of the objectives which, ideally, training might have in detail. Thus, even though objectives may not be as fully formulated as the evaluator might wish, it seems generally possible to identify, for any specific training, enough aims to permit criteria for measurement to be determined. This does not affect the problems in this field, discussed in 3.3. above, but rather confirms the conclusion that not all aspects of training will be covered by objectives and by evaluation; the experience of the research suggests, however, that in many cases at least enough aspects will be covered to test whether the training is justified.



A further reservation expressed earlier which the case studies confirmed was the poor motivation amongst management in the trade to participate in this type of research. The six case studies described showed this collaboration at its most successful, in comparison with the many abortive attempts that were made. Even among these six, however, there was one firm which twice changed its training plans without consultation with the researcher, there was a failure to carry out a follow-up study which had been arranged for the bacon preparation, and there was a company which dismissed one of its staff within a few weeks of training, before its effects could be properly considered. This type of incident is illustrative of the comparatively low priority which management tend to place on research of this nature, in comparison with the immediate demands of running a business. This emphasises the difficulties of research in this field, difficulties which others, such as Crossley and Lewis, et al., have also encountered, although it is not to be wondered at. A number of reasons have been noted already (5.2.3) for the reluctance of firms to cost training thoroughly, and it is well known in management research circles that the objectives of the researcher

and the practitioner may clash (Knight, 1975; Bennett, 1976a). In addition to the ambivalent interest from management, the customer relations case study suggested that interest from participants falls away swiftly. While it would be bold to assert that this single experience is necessarily typical of all situations, it is worth suggesting that evaluation of this nature might be most usefully carried out by a researcher working as an employee within his own firm, so that he could play a greater part in maintaining an enthusiasm for producing results. He need not necessarily, of course, be specifically an 'evaluation officer', involving an extra member of staff; a training officer might take over evaluation as one of his duties, or (perhaps ideally) evaluation could become a normal responsibility of the person who designs the training.

- 13.3.5. Another reason for having research conducted by an employee of the firm being studied relates to the use of these studies as action research. As a general conclusion, it was clear that evaluation of cost/benefits needs in many cases to be supported by some sort of validation study at the levels of the participants' reactions or learning. This accords with the arguments of writers such as Hamblin who emphasise the causal chain linking the different



levels, although this finding is a little different, in that the function of the two types of exercise is not exactly the same. In at least two of the case studies (see Chapters 8 and 11), it was noted that particular value derived from both the cost/benefit and validation approaches through the way they suggested what the best emphasis for training should be, and the way they helped make evaluation an integral part of the training system. It is in this fashion that the study was most clearly of use as action research, in the sense of research where the management and researcher explore and solve problems jointly, for their mutual benefit, by deliberately modifying the field under study (Burgoyne, 1973b; Bennett & Ferris, 1975; Bennett, 1976b).

#### 13.3.6. Guidelines for Management

To summarise these findings about evaluation, it can be said that methods do exist which may enable management to determine which training, and how much training, is suitable for specific circumstances.

However, there are very few generalisations which can be made in this area, and so each set of circumstances needs to be studied in some detail. There are few generalisations about what methods of evaluation are available and are possible, and there are still fewer

about what type of training is appropriate in particular situations. On the other hand, there are a number of guidelines which can be provided for training management, to indicate the steps that need to be taken in evaluating training. The need to rationalise some sort of hypothesis of training is one of these that has been mentioned. Another is, the need to define the timespan over which the results are to be studied (compare the comments in 3.3.3.). In at least three of the case studies - of bacon preparation, of customer relations, and of management development - it was found necessary to fix a rather arbitrary period over which to estimate benefits. In the customer relations case, though, the alternative of producing breakeven points was also studied.

A further guideline for management in this connection is that they should keep aware of the types of training factor which do not lend themselves easily to measurement. Thus the study of bacon training stressed the importance of line management support to training, and this was also a conclusion to Lewis's and Steed's work. It is difficult to imagine, however, how such support could be measured, or related in any quantitative way to financial benefits. Similarly, many benefits can scarcely be quantified.



13.3.7. Woodward's Theory

It is interesting to note that at least one conjectural theory has been put forward to predict the types of training likely to be amenable to evaluation (see 3.5.3.). Woodward (1975b) argues that training may be either curative or preventive, and that the former will be more easily evaluated. Such curative training is aimed at dealing with relatively clear and immediate problems, and is thus likely to result in short-term benefits (if successful) and to have objectives that are better-defined than those of preventive training.

There is a certain amount of evidence from the present research to support Woodward's hypothesis. Thus the bacon case study would appear to concern curative training, as from Chapter 6 would both the examples from mail order, Butterworth's study and that of the cosmetics firm; and these are among the studies where the results were comparatively easily measurable. There might be some query in the case of the bacon preparation, but there were certainly some problems which were in need of curing in this case, such as the inflexibility of staff. On the other hand, the management development research, and the study of news marketing with the same company (see 2.5.2. supra), were both instances where problems

were to be prevented, and results were anticipated, in the long term. They had the vaguest of objectives, and provided little opportunity for measuring what benefits derived from training.

An additional difficulty with management development has been pointed out by Burgoyne (1973a) - much of the training may be under the control of the participants themselves, and thus the information provided as feedback is often for use largely in formative or short-cycle evaluation (see 3.3.2.). So such objectives as there may be will often be subject to short-term modification. A possible method of getting round this problem is to attempt to relate profitability of firms with their activity in management training. A positive correlation has been alleged between these variables (Odiome, 1961), although seldom if ever supported with data. Two British writers have remarked, "However, there does seem to be a relationship between the profitability of a company and the fact that it has management training" (Thorley, 1971, p25; Whitelaw, 1971, p54), but their use of identical words fails to hide their lack of evidence for the assertion. One difficulty is that, even if a correlation did exist, it would be difficult to establish which was cause and which was effect. In addition, its existence has also been



queried, both by the C.B.I. (Bury et al., 1971) and more recently in a study by Prynne and Wood (Personnel Management, 1976). Their survey of companies, largely in manufacturing, suggested that, at least to a point, there was an inverse relationship between profitability and management development. This is clearly a field where further study would be useful.

The position of the customer relations training is also of interest because it is a little difficult to place in Woodward's classification. It is presumably largely preventive training, and perhaps has the results which he describes as "insurance benefits" - it is aimed at insuring against particular incidents having an undesired effect some time in the future. In this study, the participants' own logging did measure some benefits, although these were short-term results, and the measuring technique was of the most subjective nature. Perhaps the conclusion should be that the evaluation method itself can influence the curative or preventive nature of the training, and thus assist in determining how successful the evaluation might be. This is to be anticipated, in view of the part played by the training hypotheses that may be rationalised in this type of exercise.

This study, then provides what may be a useful test of Woodward's hypothesis, in that it permits a little more detail to be given to the theory of what sorts of training are most easily evaluated. It would not be correct to say, though, that any principle has been confirmed which distinguishes between training that is or is not evaluatable.

13.3.8. An Approach to Evaluation

What has been confirmed is that a general plan can be constructed to illustrate a method of approaching evaluation. There is a great deal of subjectivity in this field, and this is inevitable, because of the numerous difficulties observed in establishing experimental conditions. Yet no measurements are totally objective, and where management is concerned there is the continuing duty to take decisions which are subjective, but which are systematically based on the limited evidence which is available. In this case, a general method can be established, and the algorithm in figure 13:1 sets it out step by step. This can predict nothing about any specific form of training, but it may provide a checklist of the major points to be considered in any particular instance.



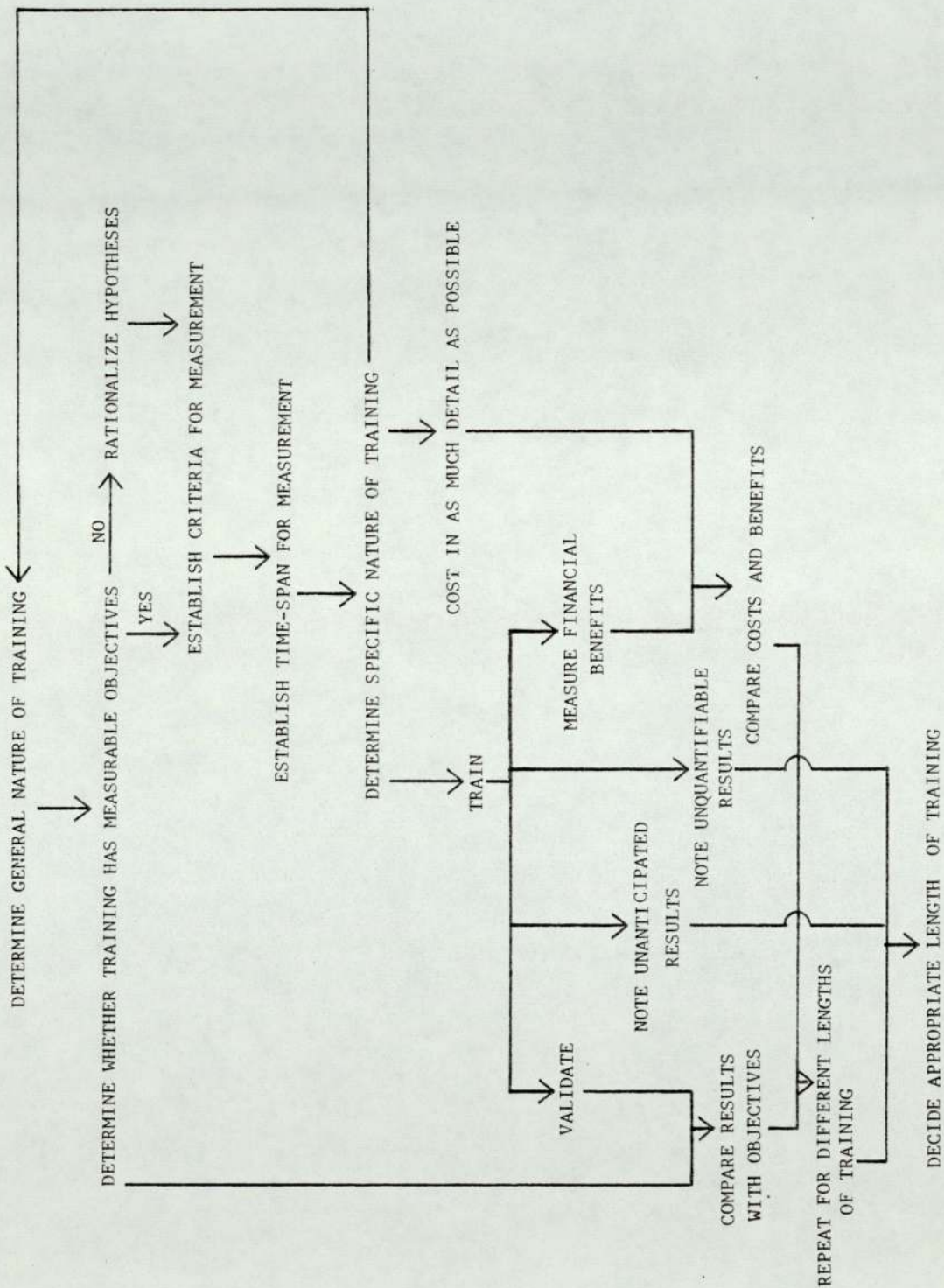


FIGURE 13:1

#### 13.4. Training in the Distributive Industry

##### 13.4.1. The Cost Effectiveness of Training

As a result of the case studies and of the findings about evaluation, it is possible to draw various conclusions about the value of distributive training itself. These conclusions seem to group themselves into some seven main headings.

First of all, it is clear that no proof is available that 'training is cost-effective'. As was anticipated (see 3.5.3.), it would indeed be most unlikely that such a conclusion could ever be reached, in view of the obviously varied nature and quality of the training that is carried out. As Ellis (1969) has said, "it can never be proved that training pays" (p.92). The results of this type of research will almost inevitably involve the development of general methods and insights rather than of specific results. But there is evidence, both from this research and from the previous studies that have been discovered, that at least some of the training in distribution justifies its costs. Thus the bacon preparation and customer relations training both suggested that their results greatly outweighed their costs, confirming the experience of the cosmetics firm, of Lewis and Steed, and of Butterworth's analysis of short training sessions.



#### 13.4.2. Management Support

Of course, it must depend on the nature of the training under study what value it will have. The findings that have been observed about the methodology of evaluation (in 13.2 and 13.3. supra) show that consideration is needed of the type and the design of the training being valued. Thus the case was mentioned of the bacon training, where the course had to be considered in conjunction with the managerial environment; it was almost necessary to redefine the word 'training' to take this into account. This, then, is the second conclusion about training; to realise its greatest value it needs support from management in the form of encouragement to those taking part. The evidence in the bacon study was confirmed by the example of the staff in the kitchen furniture department who did not appear to profit from customer relations training (see 8.5.6. supra). This in turn lends some credence to the opinion mentioned at the beginning of this thesis (1.2.4. supra), that poorly trained staff, high employee turnover and poor management are all related to each other, partly as a vicious circle.

#### 13.4.3. The Need to Train

The third conclusion is that, in certain cases, training is necessary (through that is not always to

say it is cost-effective) because of the requirements of the law or of changes in systems. The importance of training in new systems was suggested by the case of the pickers and packers in 6.1.11., and the issue of legal needs was part of the hypothesis confirmed in the case study of training priorities. In the latter case, though, it was clear that there was different degrees of necessity involved.

#### 13.4.4. Cost Reductions

In addition, training systems and methods may themselves increase in cost-effectiveness, where they achieve the same results at lower costs. This fourth point is suggested by two case studies from mail order in Chapter 6. Within the context of the cost/benefit model, a possible consequence of reducing costs is that a net benefit may be produced by training less, where the loss in benefits is less than the saving of costs (see figure 6:6). This might in fact depend on the manner in which the level to be achieved (such as E.W.S.) is determined. The classical theory which applies learning curves to work standards (as, for instance, in Knott, 1972) puts E.W.S. as asymptotic to the learning curve, so that it is the maximum standard considered possible to be achieved. Where E.W.S. is determined in this



way, it is very likely that greater benefit could be derived by ceasing to train before this level is attained. If, on the other hand, E.W.S. is less than the maximum possible, then it may represent the estimate of maximum net benefits. In other words, this approach might be used to determine the most appropriate level for E.W.S., from the training point of view; its consequences in terms of output and other considerations would then have to be taken into account, if they had not been already, when the benefits were estimated.

Whatever the specific case, it is clear that management should consider whether they are over-training, and whether the standard being aimed at is set at the correct height. It is quite possible that less training could be an improvement.

#### 13.4.5. Training and the Job

There is some evidence from this research that the difficulties in realising the true potential of training occur particularly at the interface between the training process and the job to be done. This potential problem was recognised at the start of the research (see 3.2.4. supra), and has been noted (at 2.1.1.) in the context of retailing (J.Woodward, 1960). A number of examples of problems at this stage

in the training process have been noted, and it was in particular the major conclusion of the validation exercise in the management development case study. This involved a number of factors, including participants for whom the subject matter was hardly relevant, items learnt for which no opportunity was given for practice on the job, and poor briefing and debriefing. The same issue was then articulated as part of the criteria in the priorities scheme, on the basis that such training as will have little influence on the job is unlikely to realise its full potential cost-effectiveness. This, then is a fifth conclusion.

#### 13.4.6. Choice of Participant

Related to this is a sixth point, that the return from training may well be improved by a better choice of participant. This was indicated not only in the management development example, but also by the case studies of bacon preparation and customer relations training. There was widespread evidence that staff were being trained to improve at tasks in which they were seldom or never involved. It would be foolish to assume from this that such training 'had no use'; it might well have had value for the employees' general development, which would inevitably have been very hard to demonstrate. Yet, clearly, training management should be aware of situations where this



is happening, even if they take the conscious decision to train the staff involved nonetheless.

The positive side of the same principle is that staff can be chosen for training on the basis of their better flexibility and an improved deployment of skills. The bacon study suggested what benefits flexibility could bring, and both that example and the research into sales training showed the dangers of training staff who might leave the firm's employment shortly. It is not always easy to determine in advance which employees are in this group, as has just been noted in the case of the management development study (see 13.1.4. supra); but it would at least seem sensible to avoid dismissing a person within weeks of training, as happened once in this research. In addition, if it is possible to distinguish the staff whose performance is likely to improve most after training, it is clearly appropriate to concentrate training on them. It might appear logical that the staff with the least experience would benefit most, and the case of the bacon training seems to confirm the experience of Lewis and Steed in this regard, although one cannot generalise; in the customer relations study, there was no evidence that this was so. However, trainers would do well to consider in specific circumstances

whether junior staff might have better prospects of benefiting from training, just as whether those also might, who have encouragement from their own managers. There has been some research (Cravens & Woodruff 1973) which suggests that, in the sales function, the major factors which determine performance can often be identified; and thus would appear to be a similar situation.

13.4.7. Underestimating Benefits

A final conclusion to be mentioned is that, since results have been estimated on a conservative basis, it is likely that training is more beneficial than a critical evaluation will make it appear. Training inevitably has side-effects, and it was noted in the validation of the management development case study that these might include the opportunity to reassess one's job from a different perspective, and the chance to meet, and discuss issues with, other people in work situations parallel to one's own. In this sense, it is possible that training may have benefits which do not result from 'learning' in the normal sense of the word. This is a further complexity that is not always realised in models of training and evaluation, such as those mentioned in 3.2. supra. Training has what Belasco and Trice (1969 a; see 3.3.2 supra) call "ceremonial aspects", and these seem to work as much



by promoting motivation amongst participants as  
by increasing learning.

13.4.8. On the evidence, therefore, it is possible to conclude that much training in distribution is worthwhile; but only in individual circumstances can trainers, managers or researchers determine which training is cost-effective, or how much training should be carried on. This study has provided a number of pointers to assist these individual decisions, both in what activities to stress and what pitfalls to avoid. However, the data will never be fully available, and all that can be done is to assist the manager to make his decisions as well as possible on the basis of incomplete information; which, after all, is one of the major skills of management.

### 13.5. The Part Played by this Research

13.5.1. This study of the methods of evaluating the costs and benefits of distributive training seems, to at least on extent, to have been a useful piece of action research. Various findings have been noted which had practical applicability in specific circumstances. As far as evaluation in general is concerned, it has largely taken the form of a feasibility study, covering a broad range of issues

in the field of distributive training. The case study approach was used with this in mind, and it seems to have been successful in ensuring that different types of training and of business were considered, and that the interests of the industry were taken into account. These were the two principles chosen (in 2.3.2.), upon which to base the range of the research.

- 13.5.2. A fair degree of success was achieved at providing variety in the case studies. The fields covered included occupational (and motor) skills, social skills (customer contact), management development, sales, career development (which included a number of the D.I.T.B.'s areas of training), and training systems. In addition to these, a number of studies in still more areas of training were described in Chapter 6.

The types of organisation with whom collaboration took place, included a multiple supermarket, other retail chain stores, a department store, a multiple wholesaler, five small firms in wholesaling or retailing (in the U.V.P. study), a mail-order company and a distributor of self-manufactured goods. Here again, then, a range was achieved, in accordance with the original intentions of the study.



13.5.3. The research included a number of new applications of techniques, and new findings about a field study on which information was rather sparse. Thus, as far as is known, the application of a graphical model of costs and benefits to training in the form described, has only been carried out previously in the few limited areas mentioned in 4.3. Though it is a well-known technique in other aspects of management, no former test of its feasibility to a range of aspects of training has been found. A second new contribution has been the design of a costing system for training in the British distributive industry, and a presentation for the industry of the principles of other systems for costing training that have been previously published.

There now exists in one piece of work a catalogue of the small number of studies that are known to have been carried out into the cost/benefits of distributive training. While this is not lengthy, it has been possible to indicate the potential range of the subject, and to suggest an approach for analysing all such studies. A number of the six cases described in detail permitted modifications to this approach, while others were themselves tests in innovating methods.

13.5.4. It now remains to consider how far evaluation of training is itself justified as a management activity - how far, in other words, research of this or a similar nature is worth continuing. A number of theoretical and practical problems need to be dealt with here, many of which have already been mentioned; in the next chapter they will be brought together and discussed. Then, finally, it will be possible to suggest (in chapter 15) a number possible fields for further research, and for putting into action the findings of these studies.



## THE JUSTIFICATION OF EVALUATION

"The debt we may contract doth not deserve our regard, if the work be but accomplished."

(Thomas Paine, *Common Sence*)

*This chapter discusses the justification of evaluation as a management activity. Although some trainers are worried that uninformed 'evaluation' takes place which may harm their activities, the evidence suggests that little systematic evaluation is carried out. Five reasons offered for this are discussed, and most of the problems are met; but it is still necessary to establish the reasons in favour of evaluating, of which previous writers have suggested a number. In general, these lead to the main justification, as a means of innovating and improving training, in the broadest sense of the word. It is still, however, questionable whether the benefits from evaluation justify the effort needed to carry it out. The cost/benefit model suggests how this question could be answered in specific cases, but there is a logical dilemma involved. The best solution is perhaps to move towards integrating evaluation into training. Finally, the various issues are considered on the question of whether the maximization of profit should be the criterion by which training is justified. The process of evaluation is concluded to be a means of providing information about training's value as an innovation directed towards profit and other objectives.*

### 14.1. The Argument against Evaluation

14.1.1. As to the question, whether evaluation of training is itself justified as a management activity, some issues in this area have been thrown up by the

findings about evaluation (in 13.3. supra), besides the conclusions on distributive training which have just been discussed.

First, it is clear that evaluation could be used by training management as a 'weapon', to defend or promote their own activities. This point was mentioned in passing during the introduction to the priorities scheme (12.1.1. supra), where it was noted that the attitude to the training function of other departments is not always as cooperative as might be wished. Evaluation can assist in the orderly planning of training, and help to protect trainers from sudden demands to divert or stretch their resources. Again, it may be used to justify training activities if they are under threat of suppression. It has become a cliché of writers on evaluation that the training function is one of the first to have its budgets cut during times of economic adversity. This comment is found especially in American literature (such as Mahler, 1953; Odiorne, 1964; Douthat, 1970) and appears to have become even more common in the recent years of recession (see, for instance, Evered, 1975; Nutbeem et al., 1975; Morano, 1975; Lippitt, 1976; Cullen et al., 1976; Connors, 1976).



The same complaint has also been made in Great Britain, for instance by Giles and Robinson (1972) in their argument for human resource accounting, and more recently by Roberts and Stone (1975) and Foy (1976). In addition, one reference specifically to distribution has been noted, when the training committee chairman of a trade association argued that:

"training had always been the "Aunt Sally" of the Federation. He said: 'In times of staff shortages, training is always the first thing to go'".

(The Grocer, 1977)

In fact, none of these assertions are ever backed by actual examples of firms cutting back sharply on training, and the present research has uncovered strikingly few. The only cases were, towards the end of the research, in the firm collaborating over sales training, and also in the mail order company, mentioned in 2.5.6. supra; and latter, though, was restricting new training developments rather than the training that was already under way. Perhaps the cutbacks apply more to 'trainees' or apprentices taken into employment for long-term training than to the training of staff already at work; the reduction in trainee jobs for young people certainly appears to have been a factor in the increased unemployment

in Britain in the mid-1970's. Nonetheless, it is quite clear that many training officers in this country are concerned about the security of their departments, and are worried in particular that uninformed evaluation of the training function is taking place. For that is what is involved; the decision on whether or not to train implies a value-judgment about the activities taking place, and the fear is that this judgment is made without any systematic information.

14.1.2. The evidence suggests that little training is systematically evaluated. Belasco and Trice (1969b) asserted that "probably 99%" of training has no proper assessment, though that seems to be just a guess. Reality is probably not quite so discouraging, although there is considerable room for improvement. As was noted in 3.4.2., Catalanello and Kirkpatrick (1968) carried out a survey of firms in the U.S.A. and Canada on this subject, and found that over half their respondents claimed to evaluate training up to the job behaviour level, although they described much of this evaluation as "superficial and subjective"; 45% claimed to measure results (that is, measured in performance or financial terms), but "very few systematic and objective measurements" were discovered. It is difficult to interpret these



findings without a definition of adjectives such as 'systematic' and 'subjective'; it has been noted that some subjectivity is inevitable in this field (13.3.8. supra). However unsystematic methods may be, it is quite possible that they are better-informed than the approaches of others who might seek to criticise training on grounds of its worthlessness.

Clearly, there have been some serious attempts at evaluating training, even though much more could be done. Whitelaw (1972), in his review of the literature, traced an increase in interest in this field since about 1955, and in parallel an improvement in methodology. None of this, however, prevents the conclusion that considerable advances can still be made.

- 14.1.3. In justifying evaluation, therefore, one cannot avoid asking why more studies have not been attempted; and this is particularly appropriate for the distributive industry, in view of the small number of cases discovered during the present research. A range of reasons seem apparent in answer to this query, and they can be discussed in turn. Whitelaw himself offers three, although there are probably a greater number than that.

There is first of all the argument that the effects of training are self-evidently beneficial, so that there is no need for evaluation. This view dates back at least to the Second World War, when the American director of federal-aided T.W.I. reported that:-

"In peacetime the development of techniques for in-plant training and their use to get production results is so profitable that it is properly something which private enterprise should operate and pay for".

(U.S.A., War Manpower Commission,  
1945, p.xi)

No evidence was given to support this, however. Wallace and Twichell (1953) noted a similar attitude in many management, and their remarks have been quoted with approval by Besco, Tiffin and King (1959) and by Whitelaw (1972). In Europe, Meigniez (1963) noted that "evaluation is taken for granted by everybody" (p.29). This may be related to the point of view mentioned at the start of this thesis (see 1.4.9. supra), that training needs to be encouraged as a source of quick savings or benefits, and it is implicit in the attitudes of some trainers in distribution - such as those in the supermarket chain in 2.5.5., who were not prepared to consider whether or not their audio-visual system was



worthwhile.

There are some clear difficulties with this position. To start with, it totally contradicts another widespread attitude, of scepticism over the value of training, which has been expressed about the distributive industry (see 1.3.6. *supra*), among others. If many doubt training's worth, it is hard to argue that its benefits are self-evident.

Secondly, it is certain from this and other research (Belasco & Trice, etc.) that the effects of training will quite possibly not be those that are expected; and finally, this argument ignores the possibility that greater benefits might be achieved from different amounts or different types of training. The training management of the supermarket just mentioned were not against all evaluation, but were prepared to consider a study to seek improvement in their training systems. The question of improvement will be considered shortly (see 14.2.3., *infra*), but it is clear already that any self-evident benefits that training may have do not affect the need for evaluation.

- 14.1.4. A second obstruction to assessing training is the belief that it is too difficult. This is also mentioned by Whitelaw, and is probably the most

common underlying reason for the limited activity that goes on. Certainly, there are many problems; these have been analysed at length in this thesis, and in many cases confirmed by the research. There does appear to be a belief in the industry that evaluation is too theoretical and is also too difficult to apply in practice. One training manager of a large company (one of the firms, as it happens, involved in a case study in Chapter 6) corresponded with the researcher on this point in 1975:

"models that have been suggested which advocate that all training activity must be geared to overall corporate strategy are indisputable in their logic, but I have yet to see a practical example that will stand up to scrutiny".

Nevertheless, the fact that some approaches to evaluation are too ambitious need not prevent trainers attempting to assess training (if that would be worthwhile) in a full appreciation of the limits within which such activity must take place. The findings of this present research have indicated that, in at least a number of cases, evaluation is not impossible and, despite the difficulties, can produce positive conclusions. As Warr, Bird and Rackham (1970) point out, in agreement with a report



from a British government agency on the subject, "unless the attempt is made, useful lessons may go unlearnt". (p.87)

14.1.5. One minor objection which is sometimes made is that training is a necessity in any case, so that determining its value will not affect the issue. Ayres (1974) reported a BACIE think tank as regretting "the pressure to satisfy training needs which are considered obvious" (p.85). This is related to the first argument discussed (that benefits are self-evident), and may be dealt with in a similar way. It is true that some training is unavoidable, as this research has confirmed (see 13.4.3. supra) - although it would be hard to argue that all training is. But this does not affect the possibility of producing better training, or of achieving the same result with less training; both of these are at least conceptually possible, but require some sort of evaluation in order to be tested.

14.1.6. A fourth doubt about evaluation of training has been raised with the researcher. It is that other activities may be better than training. It is a commonplace of writers in this field (see, for instance, Warr et al.) that better recruitment methods, new plant, or other investments might

produce a larger (or quicker) return than training. Again, this is true, but does not permit us to dispense with evaluation. Indeed, one can easily view it as an argument for evaluation. Unless the costs and benefits of training are known, at least to some approximation, it will not be possible to decide that other courses of action would be better.

14.1.7. Finally, there is the objection that evaluation is too costly, in money, time or effort, to justify the benefits it brings. This is the most valid reservation about evaluation, and has been expressed to the researcher by management in distribution. Thus the training director of a major supermarket chain wrote in 1975:

"Sophisticated evaluation of training in distribution usually costs considerably more than the results would justify. At the risk of sounding cynical it might perhaps be useful if someone carried out an evaluation of evaluation techniques".

As Whitelaw puts it, there is "inadequate consideration of the benefits which can follow from an evaluation exercise" (p.6). This problem cannot be firmly resolved one way or the other. It all depends on the circumstances; just as some



training is worthwhile and some is not, so the same is true of evaluation. However, it is best approached by considering what the benefits of such an exercise might be, and it will then be easier to judge the probability of evaluation being cost-effective.

## 14.2. The Benefits of Evaluation

14.2.1. The next task, then, is to establish what reasons there are for evaluating training, especially to meet the objection that it might not be worth the effort - though the argument that the results of training are self-evident may also be dealt with in more detail at the same time. The literature on the subject is not lacking in suggestions, and three references seem especially useful. These are Ayres (1974), Belasco & Trice (1969b) and Wentling & Lawson (1975).

Ayres gives seven reasons for wishing to evaluate training, of which three appear to involve their use as 'weapons' for defending the training function, the use that was mentioned above. Thus evaluation can be used "to identify the contribution of training" to the organisation, and to develop human resources or to identify returns on investment. Identification or results may be "an end in itself" (to recall once again Burgoyne's and Singh's phrase), but this

justifies nothing but the fact that training is carried on. The same comment applies to Belasco's and Trice's reason, "to record the results of change efforts" (p.7). Of course, as they point out, such recording may build up theoretical knowledge of training to the point where, in the long term, it can be put to practical use in different ways - which is very much the argument Burgoyne and Singh put forward for using the two approaches to evaluation which they describe, and for keeping them integrated together.

- 14.2.2. Amongst the other reasons offered in favour of evaluation, Ayres mentions the need for information for appraising training needs, and Belasco and Trice suggest the same: "to pinpoint needs". Ayres also mentions the use "to check if the training needs .... have been met", and these arguments illustrate the importance of the closed-loop process, with feedback, involved in evaluation. Many of the case studies described have shown how specific elements of training have mismatched, in one way or another, with the training needs and how the needs have been modified as a result. Wentling and Lawson are making a similar point when they argue that evaluation is necessary "to aid in planning" and "to aid in decision-making", and that these systems are operating



at a number of different levels.

Further reasons suggested include Wentling's view that evaluation can "upgrade program personnel", that is, assist in the appraisal and development of training staff. Evaluation "teaches the teachers" (Buss, 1975). This has not been considered in the present research, but it would seem reasonable that training objectives might parallel the personal objectives of individual staff, so that the training evaluation would interact with staff appraisal. One aspect of this is what Belasco describes as "to report the comparative effectiveness" of instructors, provided this reporting is put to practical use, in terms of personal development by determining the trainers' own training needs.

Belasco also mentions comparing the effectiveness of different training techniques, and these points relate in turn to Ayres's objective of determining "the proper role of the training function in the light of what it is able to achieve". The stress in many of these justifications is that the resources of a training department can be put to best use by evaluation, and this emphasis is taken up in the specifically financial sphere by Wentling and Lawson, who see evaluation as a means "to ensure the

accountability of expenditures". This suggests a good analogy; for most companies keep accounts in some detail, not merely as a legal imposition or to provide information, but as part of their system of management control. The evaluation of training - or perhaps of any business function - can fulfil a similar role, provided it is put to the right use. It can become a natural, integral part of the way in which training is controlled.

14.2.3. These various reasons have not been discussed at length because, in a sense, most tend to point to the final justification of training, the only reason found in all three of the lists that have been used for this discussion, and the one reason in each that remains to be dealt with. This can be summed up as 'to improve the training system'. It is arguable that the reasons described as 'weapons' may not come under this heading, but all the others uses are, in effect, taking evaluation as a management tool for improving training - providing the term 'improve' is interpreted widely. This harks back to the definitions of evaluation in terms of improvement, developed by Rackham and others, and discussed in 3.1.6. and 3.1.7. supra.

This use as a means of improving training is worthy



of stress, as long as 'improvement' is taken to include the analysis of investments to choose the best or the highest priority; increasing the value of the whole training function in its relationship with other departments; assisting a firm, or a department - or indeed individuals - in adjusting to changed circumstances; increasing managerial control over training; producing better training staff; and no doubt many other benefits. Evaluation can bring about innovation in training, in many ways.

14.2.4. It is because there are so many ways in which improvement may take place in the context of training, that it is difficult to accept the argument that there is no need for evaluation. Even where the need for training may seem self-evident, there are many other issues to be considered. The evidence of the present research implies that cost/benefit techniques can play their part in suggesting how training might be improved. The conclusions in Chapter 13 included the observations that some training might be better if it was shortened, if it was given to more appropriate people, if its original design was not modified unsystematically, if its priorities were properly worked out, or if it was given to a different number of participants at the same time. No doubt innovations are conceivable in many other directions.

Most applications of cost/benefit analysis to training, both here and in other fields (Thomas et al., 1969; Ziderman, 1969; Gibb 1972; Woodward, 1975c), tend to be looking back at past training and past performance, and be judging the quantity before the quality of training. Nonetheless, they provide findings which can be used to change the quality for the better in the future. Furthermore, it is possible to conceive how the use of these techniques could be extended to compare different amounts of different types of training - this was the objective of the plan formulated in 10.3.4., supra (see figure 10:1), where benefit curves were conjectured for training staff with different lengths of service. This follows from the original conception of value (3.1.4., supra), that the worth of training arises from comparison between training projects, as well as between cost and benefit as input and output (see figure 3:2).

14.2.5. One final point to be noted about innovation and improvement is that evidently the very action of testing can improve the training itself. No doubt in part this is a Hawthorne effect, and Hamblin (1974) stresses how this effect, far from being an impediment, can be used in action research to accentuate the results being sought. In a sense, the



way to avoid a Hawthorne effect in evaluation is to build it into the structure of the study, and to make the most of what it offers. This is one of the arguments in favour of integrating evaluation into training, which is commonly held up by writers (for instance, Warr, Bird & Rackham, 1970) on the subject as being an important objective in evaluation methodology. Meigniez (1963) has noted that one of the main changes in theme in the literature after the late 1950's was this move from treating evaluation as an afterthought to training, to viewing it as an integral part.

Another aspect of the same issue is the finding of Belasco and Trice (1969a), using Solomon's experimental designs (see 3.5.2., supra), that testing contributed more to the outcome of a particular course than did the training itself. This is a salutary lesson for trainers, but it is of course an argument for evaluation, and for ensuring that training and evaluation are integrated. It must be said that Belasco and Trice were not clear in this article what sort of training was under study, and their book (Belasco & Trice, 1969b) suggests that it was in a rather specialised field, the development of positive attitudes towards social groups normally the object of adverse discrimination. Notwithstanding

this, it is still clear that training can have what they describe as "ceremonial aspects" (see 13.4.7., supra), that evaluation has a function as one of these, and that this makes the study of training (that is, evaluation) a useful activity.

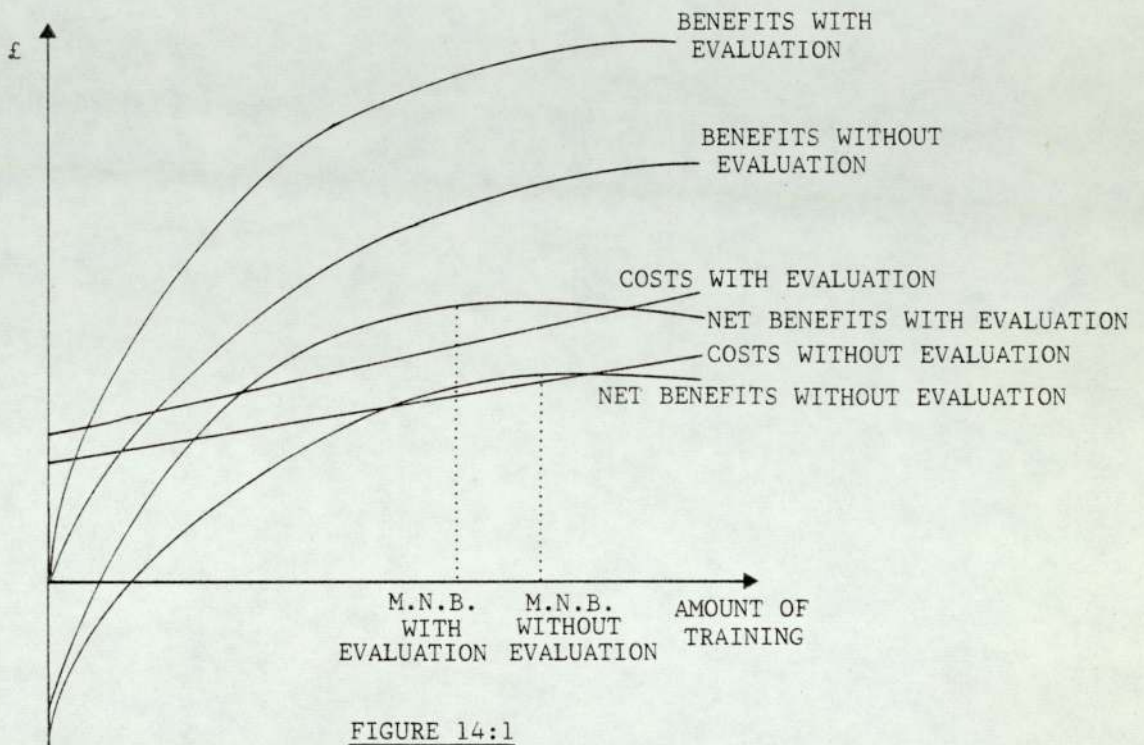
14.2.6. Despite all these reasons for evaluating, it is still possible to query whether the results of assessing training are substantial enough to justify the effort needed. The problem in answering this is, that often the value of the results cannot be established in advance. A particular study may produce findings which lead to striking savings or improvements, or which lead to none at all; they may simply confirm that all aspects of the training are optimal. Clearly, this will depend on each situation. In any case, if it is difficult to quantify the benefits of training, it would appear even harder to quantify the benefits of evaluation; although in some instances a financial saving may be demonstrable, as when the length of a training programme is cut as a result of evaluation.

14.2.7. The case study of unified vocational preparation did, however, indicate that the cost/benefit model could be adapted to incorporate the costs of evaluation (see figures 11:1 and 11:2, in 11.4.5., supra). In principle, it is not difficult to move from this to



incorporating the benefits of evaluation also, and then extending that to an assessment of the net benefits from involving evaluation in training. By this theory, training which was evaluated would be expected to yield greater benefits than training which was not. Evaluation would be constantly improving training, and this improvement would increase with the quantity of training, so that there were no financial benefits when none was carried out, but there was an increasing amount of them as more training was done. If this were indeed the case, it would be possible to conjecture different curves of benefits with and without training, and to compare them with different cost curves, such as those in figures 11:1 and 11:2. This is done in figure 14:1, using, for the sake of argument, straight lines and curves of diminishing returns, even though it is clear that these would not be perfect in practice.

If such an exercise were carried out, it is clear from the figure that the outcome might be a realisation of greater benefits from less training. However, it is doubtful whether this scheme could be extended from being a useful way of thinking about evaluation and demonstrating its value on paper, into the basis of an experimental design. This is



not only because of the range of difficulties in measuring and comparing the different variables, but also as there is one aspect of the theory which is conceptually inconsistent. To carry out the study involves evaluating; but it is assumed that the benefits will be measurable which result from training in the absence of evaluation. Unless the benefits from training and from evaluation are totally and clearly distinct, the researcher will be in the position of attempting to evaluate the results of



training which is not evaluated. Obviously, that is impossible on grounds of logic alone, quite apart from the practical issues involved.

14.2.8. It does seem, therefore, to be improbable that the benefits to be gained from evaluating training are ever likely to be rigorously measured in a manner which allows them to be compared directly with the cost of evaluation. Nonetheless, it is clear that evaluation is justified in many ways, and benefits will be observable if they exist, sometimes even financial savings being highlighted. If evaluation becomes an automatic part of training, the question of whether or not to carry it out will not arise; again, there will be no possibility of quantifying the state of affairs in its absence. It is, therefore, to be argued that evaluation should be carried out more often, so that its benefits are achieved and become evident, and so that it then becomes integrated within the training system. When this has occurred, it is probable that the demand for an 'evaluation of evaluation' will diminish. It was noted (13.1.2., supra) that it is always possible to enquire whether more effort might be justified to collect further data about the results of training. The correct balance is most likely achieved if both training and evaluation are kept under continual scrutiny as part

of the same process - and this requires that both be carried out.

### 14.3. The Role of Profits

14.3.1. One final issue needs to be considered in justifying methods of evaluation. This concerns the part to be played by profit maximization in determining the criteria against which training is to be judged. It will be recalled that one of the main reasons for the D.I.T.B.'s sponsorship of the present research was the desire among trainers in the industry to find out whether training contributed to profits (see 1.3.6. supra). Consequently, the model of costs and benefits which was hypothesised laid emphasis on determining points where the return on investment or the net benefit were maximized, although in practice there were various problems in identifying these. However, although a great deal of lip-service is paid to the concept of profit maximization, it is debatable how far firms in reality treat this as an overriding objective.

14.3.2. In fact, it is unlikely that any single objective can be viewed as ultimate or paramount in modern business. Commercial organisations have responsibilities in many directions. Adair (1974) summarises a common argument among modern management



theorists:

"all individuals ..... have a moral right to be regarded as ends as well as means. Therefore each individual's interests within industry should be taken into account". (p.43)

Adair's concept of "social capitalism" is generally in accord with this. In the distributive industries, the duties of the firm towards consumers have recently received particular emphasis, while employees, the community as a whole, the environment, and so on, each make their claims. Surveys carried out among senior executives in the U.S.A. (Edmonds and Hand, 1976) and marketing managers in Britain (Gidengil, 1977) indicate that there is no unanimity on the issue, but, as far as any generalisation can be made, it does seem that maximization of shareholders' wealth is believed to be no more than one aim out of many - though arguably the most important one.

This view has been taken up specifically in the field of training. Hesselting (1966) argues that:

"Naive criteria for evaluation are no longer possible. For example, the increase in company profit can no longer be considered

as the only legitimate yardstick for measuring training results". (p.5)

Training is, after all, a field in which issues other than cost-effectiveness arise. For one thing, the number of variables intervening between a training programme and its results restricts the extent to which financial value can be demonstrated. For another,

"the point of treating people decently - whether employees, customers or suppliers - is not because it pays to do so, but because there is no other defensible method of behaviour",

as an editorial in Management Today (1972) argued.

Yet this line of argument does not dispense with the need to consider profitability and cost-effectiveness, and it is worth noting that at least one of Edmonds' and Hand's respondents stressed the duty of management to bring a fair return to the owners of a business.

- 14.3.3. The distinction needs to be made, it appears, between maximizing profit and achieving a fair profit. In terms of the model of costs and benefits (in 4.3.4.), maximizing profit would involve training to the point of M.N.B. (and maximizing return would be training to M.R.I.), while achieving a fair profit would mean



training to a point which, though somewhere in the range of positive net benefit, was determined according to a number of different criteria. This is an important difference, and it is worth noting that it is not one that has arisen simply in the most recent past. It can be traced back at least to Drucker (1955), who firmly differentiated the economic concept of profit maximization ("..... worse than irrelevant. It does harm ..... responsible for the worst mistakes of public policy .....", p.29) and the management concept of making a profit to provide future capital, insure against risk, and so on. Perhaps the most interesting feature of Drucker's argument is that the example he uses to illustrate it comes from one of the world's largest and most successful distributive enterprises, Sears Roebuck.

Drucker argues, what is really intuitive sense, that some profit is needed to bear the risks of business activity, and that any organisation must budget for its income and expenditure, attempting to meet the targets it has set. In practice, many of these targets may not be financial ones; and indeed some organisations (hospitals, schools, and so on) may not measure their success in terms of money at all, though that does not affect their need to budget. Clearly, however, many of the objectives of distributive firms

are financial ones. They are enterprises and, by Drucker's argument, they depend on the two entrepreneurial functions, of marketing and innovation.

If innovation is accepted as a central function of an enterprise, this brings the argument back to the present findings on evaluating training; for it has been noted (in 14.2.) that the paramount justification of evaluation is that it promotes innovation for improvement. It is clear that, to be justified, training must be seen to produce, by and large, more than it costs, and for training to be innovative it must be shown where and in what manner improvement is feasible. This applies even in the context of business where requirements need to be considered of a legal, staff relations or environmental nature, and where management decisions need to balance a number of these different demands.

14.3.4. It has been one of the themes of this thesis, that management decisions are complex ones, which require information, in as much detail as is feasible, even though this is always incomplete. This point was noted at the conclusion of Section 13.4. One type of this information is the assessment of past or of projected activities. Whether or not the decision



is taken to follow the course of maximum profit, this type of information will still be needed to assist choices of corporate strategy, and it is the function of evaluation to provide this. If evaluation is an automatic, integral part of training, it can constantly contribute towards the improvement of performance, by whatever yardstick this improvement is judged. The more accurately this innovative function can be carried out, and the more improvement there is in the future in methods of evaluating, then the more useful the information it provides is likely to be.

RECOMMENDATIONS

"We shall not cease from exploration  
And the end of all our exploring  
Will be to arrive where we started  
And to know the place for the first time".

(T.S. Eliot, *Little Gidding*,v)

*Finally, a number of fields are suggested where further research might be worthwhile, including a test of the cost/benefit model; a confirmation of the priorities system; work on comparing different training techniques, subjects, etc.; a study of the types of staff who are likely to benefit most from training; an analysis of the effect of training on staff turnover; development of classifications of training; and an attempt to put the costing system into effect. It then continues by recommending that a report on the present research be submitted to the D.I.T.B. and circulated to interested parties; that a bibliography of sources relating to training evaluation be written; and that consideration be given to publishing a series of case studies, based on those discussed in this thesis.*

15.1. Recommendations for Further Research

15.1.1. The case study approach used in this research, though seen to be successful in many ways (13.5.1.), has inevitably had some limitations in terms of the precision of its conclusions, and of their generalisability. Field studies in management often lack rigorous control and the possibility of generalising conclusions (Bennett, 1976b). Since it was



intentionally a study in breadth across the distributive industry, it had to sacrifice something in depth. Many of the lines of enquiry could, had the objectives of the research been different, have been followed in rather greater detail, so that firmer conclusions might have been reached on certain specific issues - though, in that case, other issues would probably not have been considered at all. Consequently, it is apparent that a number of research studies still remain to be carried out, many of which would provide information of further practical value. These seem to fall into five main areas, and it is worth listing them one by one. They are work on the cost/benefit model, on training activity in distribution generally, on employee behaviour, on the classification of training, and on training costs.

- 15.1.2. As far as the cost/benefit model is concerned, it seems advisable to carry out at least one further study which would resemble that conjectured in 10.3.4 and 14.2.4., supra. Courses of different lengths would be carried out under circumstances which varied in technique, or instructor, or type of participant, or whatever. However, it is essential that this be done within a firm committed and interested in cooperating in the study, which probably means in the firm by whom the researcher is

employed. The exercise should be carried out under conditions where, first, the costs and benefits seem relatively easy to measure and quantify; secondly, the effects of different quantities of training can be isolated; and thirdly, different types of training, in terms of the circumstances just mentioned, are feasible. An added bonus might arise if the conditions permit a controlled design to be established, although the findings of the present study suggest that that would be optimistic. It would assuredly need close familiarity with the environment inside the firm, and this is again an argument for using an internal researcher.

A second exercise in connexion with the model which should be mentioned is the continuation of the priorities system of Chapter 12. If it were run over a length of time it would achieve further development, and more information would be acquired as to its value as a systematic management technique.

- 15.1.3. The amount of work that might be carried out into the next area mentioned, training activity itself, is almost limitless. The possibilities for research are as wide as the activities concerned. Comparison could be made between different training techniques,



between different subjects (in terms of skills, knowledge or attitudes), or between methods of assessment. Some of these will doubtless be in terms of learning, and others possibly at the job performance or the cost/benefit level. It would not be appropriate here to make suggestions, because they need to come from the immediate problems of trainers in the industry, just as the case studies of this research did. It is questionable whether an organisation such as the D.I.T.B. should carry out such work, except insofar as it affects training over the industry as a whole; for instance, the study contemplated, of comparing the benefits from different levels of distributive certificate (see 3.1.1.), might need to be done by a national agency. In most cases, it would be better if firms carrying out training would consider its assessment as normal practice. This would help them to understand more, both about the best form their training might take, and about how great the influence is of outside factors upon training - management support and staff turnover are two such factors which the findings of this study bring to mind. On the other hand, a survey of firms to investigate whether profitability correlates with management development activity (see 13.3.7.) might well be a worthwhile enquiry for the D.I.T.B., or some other body, to pursue.

15.1.4. There is, though, still room for investigation into aspects of staff behaviour such as turnover rates. It was clear from these findings that improvements in training can be achieved if the right choice of participants is made (see 13.4.6. supra), but this seems to indicate the need for some sort of predictive model to determine which are the best staff to train. One aspect of this is a method of judging the probabilities of different groups of staff leaving employment, such as the model developed by Mondy (1974) which has already been mentioned (in 13.1.4.). There was no chance to study this American work during the present research, but it appears that developments in this direction might be valuable.

There is also a need to establish the effect of training on staff retention. The present research did not find the opportunity to concern itself with this issue, but it was noted as a potential benefit in the hypothesis (in Chapter 4), and it has been identified by Thomas, Moxham and Jones (1969) as one of the significant benefits to be derived from training, outside distribution. It is also frequently assumed as a piece of common sense that better trained staff are more motivated to stay in the job; although a contrary argument exists, that



they may have a greater market value for other employers, and so may be more likely to leave. One difficulty in this context is that, while the Department of Employment publish statistics on staff turnover in the economy, they do not normally include those for distribution. It would be pleasant to have some demonstration of what the actual state of affairs is.

15.1.5. The fourth area in which more research seems to be needed is the question raised early in this thesis (see 2.2. supra), of how training should be classified. It is clear from Chapters 1 and 2 that much work is still to be done on the classification of the distributive industry (the Business Statistics Office and the Distributive Trades E.D.C. are already involved in this), of skills (of which some has been done by the D.I.T.B. itself), of employees and of training methods. Until this is more complete, it will be difficult to develop a training taxonomy, for the reasons which Miller (1975) gives. However, until such a taxonomy is available, it will be hard to determine the limits of any generalisations made on the subject of training's value. It may be possible, at present, to justify certain types of training - say, bacon preparation in a supermarket by on-the-job

instruction to groups of five staff - but to decide how specific or general that conclusion is will require some systematic classification of training activities. One would then be more satisfied that valid comparisons were being made when the results of previous studies were used as a basis for more research, and it might even be possible to construct a hierarchy of types of training which had a greater or lesser probability of being cost-effective.

- 15.1.6. Finally, the costing system described (in Chapter 5) needs to be installed and used, both to test its feasibility and to allow its development. Before its value can be judged, it need to be operated in a firm for at least six months, and if possible related to a specific training programme as a cost/benefit study. The ideal would be to combine it with the exercise already discussed (15.1.2. supra), where within one firm different types of training were carried out and investigated. The resources were not available for such a study to be put into effect within the present research, but something of this nature would be of value if these resources could be found.



## 15.2. Recommendations for Publicising Information

15.2.1. It is apparent that the practical use of this research for the D.I.T.B. has not been merely in suggestions for more research activity, but more immediately in certain aspects of information which might receive publicity. The researcher has already published two articles in professional journals, on the general problems and approach to evaluation (Hart, 1976), and on the costing system for training (Hart, 1977a); another article has been accepted for publication during the coming winter (Hart, 1977b), on the system for determining training priorities. Copies of these three articles are enclosed with this thesis.

15.2.2. It is suggested also that a report on this research be submitted to the D.I.T.B., based closely on this thesis. On their approval, this report could be circulated among interested parties in training management, in this and other training boards, in companies in distribution, and in trade associations, colleges and so on; at least those firms who collaborated in the research should be included.

The precise form of the report needs further discussion. At one time it seemed that this thesis, together with a covering note, might itself serve

the purpose. Now, however, it is more likely that parts of the thesis only will be submitted, some chapters in full, others abridged, and others not at all. The main stress is likely to be on Chapters 4, 13 and 14, with a summary of the case studies from Chapters 6 - 12. Other parts may be included more by way of appendices, Chapter 3 for those interested in the theoretical issues of evaluation, Chapter 5 as a description of a costing system for training, and Chapters 7 - 12 for those concerned to know the specific details of the case studies. It is felt that most of Chapters 1 and 2, referring to issues well-known to the distributive industry or the D.I.T.B., may be omitted. However, this, together with all the other details, will need more consideration.

- 15.2.3. It is further recommended that the D.I.T.B. commission the writing of a number of case studies on the evaluation of training. Probably a dozen or more of these could be developed from this research, and it is likely that more will come to light in the future. These might be published either as a booklet or as single sheets, in the hope that they could suggest to trainers in the distributive industry the possibility and the value of assessing training, and



some feasible ways of going about it, together with caveats about the problems and pitfalls that may be involved.

Finally, it is hoped that a bibliography may be written, of references and sources about the evaluation of training, with special reference both to cost/benefit evaluation and to the distributive industry. It is unlikely that such a specialised work would justify publication, but if it were no more than deposited in the D.I.T.B. library, it might be of use for future researchers in this field.

It remains to be seen how valuable this research will be. But if it has succeeded in assisting training managers in the future in coming to decisions about the activities under their control, or if it has helped future researchers in approaching the issue of the value of training, then it will itself have been worthwhile.

## APPENDIX 1

### ANALYSIS OF TRAINING BY A SAMPLE OF LEVY-PAYERS

A small sample was taken of organisations in payment of levy to the D.I.T.B. It consisted of 40 organisations in the South-East Region who were known to have obtained a grant under the general scheme. It is possible that the sample contained a certain bias towards larger firms, since the choice of organisation was made on the basis of assessment number, and the first 20 chosen were those with the lowest numbers from a list of known grant-claimants provided; there are tendencies for the firms with low numbers to be those longest registered with the D.I.T.B., and for those longest registered to be the largest firms. However, this is of no harm to the analysis, as the aim of the sample was to study a broad cross section rather than their relative frequencies; and no claim is made that the sample is random.

The grant files of the 40 firms were studied, and in particular the claims for grant made and the print-out of basic grant awarded. This normally related to the grant awarded in 1974; in 10 cases (25%) the 1974 grant had not yet been included in the file, and the print-out studied related to 1973 (in one or two cases there did appear a significant difference between training carried out in the years relating to grant in 1973



and 1974). It was hoped that the study would suggest what information could be usefully and significantly gleaned from these documents, and would then draw some rough conclusions from it. In the event, the most significant data appeared to be the percentage of levy awarded as basic grant (i.e. before bonus points), the number of employees and, of course, the type of training carried out.

The maximum grant available was of 80% of levy paid, and the proportion of this awarded depended partly on policy and the employment of instructional staff (one firm received 11% grant on this basis while apparently doing no training at all), but mainly on training actually carried out. This training was divided into three types: management, occupational, and relevant education. It was decided largely to ignore the last in this particular study; besides being the least significant in terms of grant available, it seemed to be the least worthwhile to evaluate as training, since it is the most distant from the control of the management of an organisation, and is, as its name suggests, of general educational value as well as being training for a specific job. Management and occupational training alone give a firm the chance to qualify for a grant of 55% of levy (that is, of almost 70% of the total grant available).

With these priorities it was found that training was carried on in the following ways:

1. 11 firms (27% of the total) employed fewer than 75 people and received a grant of less than 25% of levy. These comprised dealers in a variety of trades, although wholesalers appeared quite common. The average staff of the 11 was 27, with a range from 11 to 45. The average grant paid was 14%, with a range from 4% to 22%.

Most of the training that was done by these organisations was in-company, and on a more or less informal basis. Often it took the form of on-the-job training, in what seems like a normal supervisory relationship; this qualifies for grant if the supervision is continuous for at least half an hour, and if teaching takes place. While at one end of the scale the training was evidently carried out with at least a consideration of the needs of the firm, at the other it appears that little thought was taken even about the firm's relationship with the D.I.T.B; for up to four organisations would probably have received a higher grant had they claimed under the under-60 scheme. (Two organisations appeared to have done no training at all during the year. One organisation was a member of a training



association.

2. Only 4 firms (10% of total) received less than 20% of levy while employing more than 75. Again no special trade predominated, although 3 of the 4 appeared to be wholesalers. The average staff was 191, with a range of 87 to 293. The average grant paid was 12% (range 8% to 18%).

In this group a certain amount of general management and administrative training was carried out; and also a little in sales, systems and financial subjects. Other subjects mentioned include computers and H.G.V. driving. Yet there appeared to be little systematic internal training of staff below management level. There was scant reference, for instance, to induction, product knowledge, instructional or recruitment training. No management conferences were the subjects for grant claim, despite the size of these firms. One organisation claimed no training at all. One of the four was in a training association.

3. 7 firms (17½% of total) employed a staff of over 75, and received a grant of between 20% and 29% of levy. Their average staff was 120 (range 81 to 222); and their average grant 24% (range 20% to 28%).

This group appeared to have established principles of training in such areas as sales, systems, administration, management and financial subjects. A few of them ran conferences for their managers with a major training element. In some cases, staff were sent to suppliers' courses for specific product knowledge, but no systematic in-company training on this subject was recorded. There was apparently no induction training, or training in such fields as instructional techniques or recruitment. One of the seven was in a training association.

4. 8 firms (20% of the total) received more than 29% in grant, having 100 employees or less. Their average staff was 72, with a range from 21 to 100. Their average grant was 41%, with a range from 32% to 52%. These organisations typically gave induction training, as well as being concerned with sales, product knowledge, systems, administration, management, finance, recruitment, interviewing, and a number of more specific subjects. Attendance was organised at suppliers' product courses, and in some cases management conferences were held. Interestingly, little mention was made of instructor training, even in a group as apparently committed to training as this. Significantly, however, 3 of the 8 firms belonged to a training association.



5. Finally, 10 organisations (25% of total) had over 100 employees, and received more than 29% grant. Their average staff was 328, the range being 110 to 962. Their average grant was 44%, with a range from 29% to 78%. This latter figure was only 2% short of the maximum possible, and was achieved by the firm with the largest staff (there appeared to be no general relationship, however, between number of employees and grant awarded).

The organisations in this group carried out all the training activities of the previous group, with the exception of recruitment and interviewing, which was not mentioned in the claims. However, certain extra areas were covered. Some staff visited suppliers' factories to improve their product knowledge.

Instructional techniques' training was common, as were managers' conferences. Training in connexion with computers was also in evidence. Much of this reflects the size of the establishments, amongst which the clothing and footwear lines appeared to be prominent, although carpets and food were also lines dealt in by more than one firm; firms of this size may well have a number of departments. 4 of the 10 organisations were members of training associations, about the same proportion as among the highest grant-recipients with fewer staff.

APPENDIX 2

CUSTOMER RELATIONS TRAINING

Learner.....

Pre/Post Course

Could be expected to deal with a customer already irritated by our mistakes so that on leaving us she describes us in glowing terms to her friends. But.....

Could be expected to deal promptly and efficiently with all kinds of customer complaints. But.....

Could be expected to deal pleasantly with customer complaints but might not be very resourceful in solving them. But.....

Could be expected to handle easy complaints etc. in a reasonable manner but might sometimes allow himself to be upset by difficult customers. But.....

Could be expected to deal with most customer complaints but to do so in an off-hand manner which leaves the customer feeling slightly aggrieved. But.....

Could be expected to deliberately avoid complaining customers or attempt to put the blame for errors on the manufacturer or other third party. But.....

Could be expected to argue with most customers and arrange even the simplest exchanges in a grudging manner. But.....

PRO FORMA FOR MANAGERIAL ASSESSMENTS



Date:     /     /197

Nature of complaint:

Customer's attitude:

1. Embarrassed about complaining
2. Pleasant
3. Pleasant but determined
4. Curt
5. Indignant
6. Angry
7. Downright insulting

Do you think the store was primarily to blame?

YES/NO

.....

.....

What did you do?

How much did it cost to sort it out?

..... Time ..... hrs ..... mins

..... Money £ . p

..... Goods .....

Did the customer appear satisfied? .....

.....

ALTERNATIVE What would you have done if you had not been on the course? .....

.....

How much was saved by your action? Time ..... hrs ..... mins

Money £ . p Goods .....

FORM FOR LOGGING OF INCIDENTS BY PARTICIPANTS

APPENDIX 3

MANAGEMENT DEVELOPMENT AT A MULTIPLE COMPANY

PRO FORMA SENT TO PARTICIPANTS AFTER TRAINING

PLEASE CIRCLE THE REACTION WHICH BEST DESCRIBES YOUR ANSWER TO EACH OF THE FOLLOWING QUESTIONS.

1. How do you feel the course dealt with the following aspects of a manager's job?

Financial information and control statistics	VERY GOOD	GOOD	FAIR	POOR	VERY POOR
Planning Work	VERY GOOD	GOOD	FAIR	POOR	VERY POOR
Salesmanship and Handling Complaints	VERY GOOD	GOOD	FAIR	POOR	VERY POOR
Dealing with staff problems	VERY GOOD	GOOD	FAIR	POOR	VERY POOR
Stock Control	VERY GOOD	GOOD	FAIR	POOR	VERY POOR
Recruitment and interviewing	VERY GOOD	GOOD	FAIR	POOR	VERY POOR



2. You felt before the course commenced that it would be useful to you in the following areas.

To what extent do you feel you were right?

	WHOLLY RIGHT	MOSTLY RIGHT	ABOUT $\frac{1}{2}$ RIGHT	MOSTLY WRONG	WHOLLY WRONG
THESE SPACES WERE	WHOLLY RIGHT	MOSTLY RIGHT	ABOUT $\frac{1}{2}$ RIGHT	MOSTLY WRONG	WHOLLY WRONG
FILLED IN ACCORDING	WHOLLY RIGHT	MOSTLY RIGHT	ABOUT $\frac{1}{2}$ RIGHT	MOSTLY WRONG	WHOLLY WRONG
TO THE COMMENTS OF	WHOLLY RIGHT	MOSTLY RIGHT	ABOUT $\frac{1}{2}$ RIGHT	MOSTLY WRONG	WHOLLY WRONG
EACH PARTICIPANT	WHOLLY RIGHT	MOSTLY RIGHT	ABOUT $\frac{1}{2}$ RIGHT	MOSTLY WRONG	WHOLLY WRONG

3. During the course, you said that you hoped to be able to put into action the following points.

How do you feel you have succeeded?

_____	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
THESE SPACES WERE	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
_____	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
FILLED IN ACCORDING	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
_____	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
TO THE COMMENTS OF	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
_____	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL
EACH PARTICIPANT	VERY WELL	QUITE WELL	REASONABLY	POORLY	NOT AT ALL



4. Is there any other area where you feel the course has helped you?
5. Did the course hinder you or your work in any way?
6. Do you feel there is any particular area where you need further experience or training?
7. Have you any other general comments about the course or its follow-up?

OTHER QUESTIONS WERE ADDED FOR CERTAIN PARTICIPANTS, ACCORDING TO THE COMMENTS EACH HAD MADE.

APPENDIX 4

FURNITURE SALES TRAINING

OBSERVATIONS OF CUSTOMERS

NUMBER OF CUSTOMERS (ave.)

	Before 11.00	11.00- 12.59	13.00- 14.59	15.00- 16.59	17.00 and after
M	2	0	5	3	2
Tu	1	3	4	0	0
W	n.a	n.a	4	2	1
Th	1	9	6	1	4
F	n.a	n.a	4	2	1
S	5.5	11	12	3	0

N.B. These numbers are of customers served by one salesman. They suggest a slight tendency for customers to favour the early afternoon period, and a tendency for greater numbers on Saturdays. Both of these were anticipated.



CONVERSION RATES (i.e. sales as percentage of customers)

	Before 13.00	13.00 and after
M	0	10
Tu	25	25
W	0	8
Th	10	18
F	n.a	43
S	6	7
All days	8	15

TIME SPENT SERVING CUSTOMERS (%)

	Before 13.00	13.00 and after	Total
M	12	24	19
Tu	15	17	16
W	n.a	19	19
Th	55	29	42
F	n.a	37	37
S	48	43	47
Total	38	28	32

This suggests that over two-thirds of each salesman's time is not spent serving customers. It is possible that even the total figure of 32% is overestimated, as data were not available for two week-day mornings where the time spent serving customers may well have been small.



NUMBER AND SEX OF CUSTOMERS

Customers (exc. young children)	No. of Occasions	Sales made	Conversion rate	Value of sales (£)	Average value per sale (£)
1 woman	38	4	11%	170	42
1 man	11	1	9%	3	3
2 women	15	1	7%	219	219
2 (man & woman)	36	7	19%	994	142
All sales including a man	55	8	15%	997	125
All sales including a woman	94	12	13%	1383	115
All sales with no men	53	5	9%	389	78
All sales with no women	14	1	7%	3	3

Five occasions of three customers together, and three of two men together, resulted in no sales at all.

VALUE OF SALES EACH DAY FOR ONE SALESMAN

MON.	£80		
TUE.	£70	Average Mon-Thur	: £136
WED.	£60		
THUR.	£335		
FRI.	£601	Average Fri-Sat	: £548
SAT.	£496		





APPENDIX 5

RATING SCALES FOR UNIFIED VOCATIONAL PREPARATION

ONE

.....

- frequently causes offence amongst his/her workmates.
- has some difficulty in getting on with the people he/she works with.
- gets on well enough with his/her colleagues, but makes little attempt to be particularly sociable.
- is reasonably sociable at work, and has made himself/herself well liked.
- is extremely popular with his/her workmates.

TWO

.....

- lacks confidence to such a degree that it is difficult to get him/her to communicate at work in any way.
- is rather unsure of himself/herself, and needs constant encouragement to play his/her part fully in the job.
- with reservations to be expected of somebody of his/her age, is generally self-confident in his/her work.



- is normally assured of himself/herself enough to deal with problems with a maturity beyond his/her years.
- is so self-confident that he/she is never afraid of approaching an awkward situation.

THREE

.....

- is excellent at expressing ideas at work and putting them over to the right people in the right manner.
- is normally articulate in communicating with customers and workmates.
- can speak clearly and, with some reservations, communicates satisfactorily when face-to-face with others.
- has difficulty in communicating with other people.
- can barely express himself/herself in face-to-face situations, or choose the appropriate person to address.

FOUR

.....

- is so good at identifying what needs to be done and sorting it out on his/her own that he/she needs no guidance from his/her superiors.

- is quite capable, under general direction, of resourcefully working out how to tackle most incidents which arise.
- has so much initiative at sorting out problems which he/she is given as would be expected of employees of his/her age.
- needs detailed guidance if he/she is to deal with any unusual incidents which occur on the job.
- even when given close assistance, will use no initiative at all in sorting out problems or finding information.

FIVE

.....

- has close understanding with his/her older colleagues, who think very highly of him/her.
- works well with people of greater age and experience.
- gets on with his/her more senior colleagues as well as would be expected of somebody his/her age.
- has some difficulty in establishing rapport with people older than him/her.
- is totally out of sympathy with older people, and cannot work well with them.



SIX

.....

- will avoid playing any part in assisting his/her colleagues, and can be actively uncooperative.
- is unwilling to participate in the group effort without a great deal of pushing.
- will give assistance to customers or his/her workmates, but needs to be asked before doing so.
- will make an effort to give cooperation to his/her colleagues.
- is always looking for ways of being helpful and obliging on the job.

APPENDIX 6

PROGRAMME

DURATION

PARTICIPANTS

Numbers

AVE. PAY

TOTAL PAY

TUTORS

COST OF TUTORS

TIME NEEDED FOR PLANNING & DESIGN

LOCATION

EXPENSES ENTAILED

TRAINING REQUESTED by

TOTAL COST

---

POINTS

LEGAL REQUIREMENTS

REQUEST FROM BOARD?

ORGANIZATIONAL PROBLEMS

SKILLS NEEDED

RESULTS EXPECTED

Comparison of results with costs

TOTAL POINTS \_\_\_\_\_

PRO FORMA OF RECORD CARD FOR DETAILS OF TRAINING PROGRAMMES

(SIDE 1, ABOVE; SIDE 2, BELOW)



## BIBLIOGRAPHY

- Adair, J (1974): Management and Morality, David & Charles
- Adamson, H (1972): Starting Work, Industrial Society
- Allen, K R (1963): Value for Money in Training, in  
Technical Education 5.11.516-17 and  
5.12.578-79 and 606
- Ashton, D & Gibbon, B (1974): Evaluating a Training  
Programme in the Probation Service, in  
Journal of European Training 3.1.62-75
- Ayres, R J (1974): Training Thoughts in a Think Tank, in  
BACIE Journal 28.7.83-86
- Baker, G M N (1974): The Feasibility and Utility of Human  
Resource Accounting, in Personnel  
Management 16.4.17-23
- Baker, K H (1976): School to Work, in Coombe Lodge Report  
9.6.188-91
- Batty, J (1975): Management Accountancy, MacDonald & Evans  
(4th Edition)
- Baxter, B, Taaffe, A A & Hughes J F (1953): A Training  
Evaluation Study, in Personnel Psychology  
6.4.403-17
- Becker, G S (1962): Investment in Human Capital: a Theoretical  
Analysis, in Journal of Political Economy  
(Supplement on Investment in Human Beings)  
70.5. 9-49

- Becker, G S (1964): Human Capital, National Bureau of Economic Research
- Belasco, J A & Trice, H M (1969a): Unanticipated Returns of Training, in Training and Development Journal 23.7.12-17
- Belasco, J A & Trice, H M (1969b): The Assessment of Change in Training and Therapy, McGraw - Hill
- Bennett, R (1976a): Research into Training and Human Resource Development: Communicating with Researchers, in Industrial Training International 11.3.71-74
- Bennett, R (1976b): Research into Training and Human Resource Development: Understanding Research, in Industrial Training International 11.7.221-24
- Bennett, R & Ferris S (1975): Research for Real, Report on Conference of the Association of Teachers of Management, Anglia Regional Management Centre, Danbury Park (May 1975)
- Besco, R, Tiffin, J & King, D (1959): Evaluation Techniques for Management Development Programs, in Journal of the American Society of Training Directors 13.10.13-27
- Birch, P & Sanday, A (1977): Understanding Industrial Society, in Industrial Society 59.1.6.
- Blair, J (1973): Opportunity Knocks - Or Does It?, in Personnel Management 5.12.34-39



- Bolton, M (1976): Research and The Training Revolution, in Personnel Management 8.8.22-25
- Borus, M E & Buntz, C G (1972): Problems and Issues in the Evaluation of Manpower Programs, in Industrial and Labour Relations Review 25.2.234-45
- Breislin, G N (1972): Training of Supermarket Staff, unpublished M.Sc. dissertation, University of Manchester I.S.T.
- Briscoe, R, (1967): Training Problems of a Voluntary Chain of Retail Food Distributors, unpublished M.Sc. dissertation, University of Manchester I.S.T.
- Buchanan, P C, (1955): A System for Evaluating Supervisory Development Programs, in Personnel 31.335-47
- Burgoyne, J G (1973a): The Evaluation of Managerial Development Programmes, unpublished Ph.D. thesis, University of Manchester.
- Burgoyne, J G (1973b): An Action Research Experiment in the Evaluation of a Management Development Course, in Journal of Management Studies, 10.1.8-14
- Burgoyne, J G & Singh, R (1977): Evaluation of Training and Education, in Journal of European Industrial Training 1.1.17-21
- Bury, M, Talbot, J R, and Marshall, R F (1971): Does your Training Pay? in Industrial Training International 6.4.108.

- Buss, T D (1975): Should Students Evaluate Lectures?, in  
Industrial and Commercial Training  
7.10.421-26
- Butterworth, J (1969): Productivity Now, Pergamon
- Campbell, J P, Dunnette, M D, Lawler, E E, III and Weick,  
K E, jnr (1970): Managerial Behavior,  
Performance and Effectiveness, McGraw-Hill
- Caramancion, M I & Suessmuth, P (1975): Training Ideas  
Found Useful: Cost of Training Revisited,  
in Canadian Training Methods 8.1.23-24
- Carter, M P (1962): Home, School and Work, Pergamon
- Catalanello, R F & Kirkpatrick, D L (1968): Evaluating  
Training Programs, in Training and  
Development Journal 22.5.2-9
- Central Statistical Office (1976): Annual Abstract of  
Statistics, H.M.S.O.
- Cheek, L M (1973): Cost Effectiveness Comes to the  
Personnel Function, in Harvard Business  
Review 51.3.96-105
- Churchill, M & Macve, R (1976): The John Lewis Idea -  
Can It Really Work for Others?, in  
Accountancy 87.997. 62-66
- Cochran, W G & Cox, G M (1957): Experimental Designs,  
Wiley (2nd ed.)



- Cole, C R, jnr & Posner, R S (1970): Sales Training, in Datamation 16.7. 54-56
- Connors, J (1976): Looking Ahead, in Training and Development Journal 30.1.30
- Corina, M (1974): Bold Reformers Wake a Sleeping Giant, in the Times (11.11.74) p.23
- Coverdale, R, Cox, D and Watkins, P (1968): Criteria for Judging the Success of Training, in R J Hacon (ed.) Organizational Necessities and Individual Needs, A.T.M. Occasional Paper no 5, pp 45-49, Blackwell
- Cowell, D W (1972): Evaluating the Effectiveness of Management Courses, in European Training 1.1. 54-64
- Cowell, D W (1975): Making Management Education Effective, in Management Decision 13.2.81-120
- Cravens, D W and Woodruff, R B (1973): An Approach for Determining Criteria of Sales Performance, in Journal of Applied Psychology 57.3.242-47
- Crossley, S C (1969): Implementing Change in Retailing, unpublished M.Sc. dissertation, University of Manchester I.S.T.
- Cullen, J G, Sawzin, S, Sisson, G R and Swanson, R A (1976): Training, What's it Worth?, in Training and Development Journal 30.8.12-20
- Davies, I K (1971): The Management of Learning, McGraw-Hill

Department of Employment (1971): Glossary of Training Terms, H.M.S.O.

Department of Industry (1975): Report on the Census of Distribution and Other Services 1971, H.M.S.O.

Dewhurst, R F J (1972): Business Cost-Benefit Analysis, McGraw-Hill

Distributive I.T.B. (1969): Grants and Guidelines No.1, D.I.T.B.

Distributive I.T.B. (1973): Report and Statement of Accounts 1972-73, D.I.T.B.

Distributive I.T.B. (1974a): The Way Ahead, D.I.T.B.

Distributive I.T.B. (1974b): Report and Statement of Accounts for the Year ended 1974, D.I.T.B.

Distributive I.T.B. (1975a): Report and Statement of Accounts for the Year ended 1975, D.I.T.B

Distributive I.T.B. (1975b): Grants and Guidelines No.5 and Levy Exemption Criteria, D.I.T.B.

Distributive I.T.B. (1976): Report and Statement of Accounts for the Year ended 1976, D.I.T.B.

Distributive I.T.B. (1977): Report and Statement of Accounts for the Year ended 1977, D.I.T.B.



- Distributive Trades E.D.C. (1975): Profitability and Liquidity in the Distributive Trades, H.M.S.O.
- Distributive Trades E.D.C. (1976): Impact of the Employment Protection Act on Part-time Employment in Retailing, H.M.S.O.
- Dixon, A (1975): The Development of DITB Grant Policy in Electrical Wholesaler 14.3
- Douthat, J (1970): Accounting for Personnel Training and Development Costs, in Training and Development Journal 24.6.2-6
- Drucker, P F (1955): The Practice of Management, Heinemann
- Dunnette, M D (1970): Managerial Effectiveness: Its Definition and Measurement, in Studies in Personnel Psychology 2.2.6-20
- The Economist (anonymous article 1975): How Britain Trains, in the Economist (19.4.75) pp 76-77
- The Economist (anonymous article 1977): Young on the Dole, in The Economist (11.6.77) pp 87-90
- Edmonds, C P, III and Hand, J H (1976): What are the Real Long-Run Objectives of Business?, in Business Horizons (December 1976) pp 75-81
- Ellis, C D (1970): Costing and Evaluation of Training, in J R Talbot and C D Ellis, Analysis and Costing of Company Training, Gower

The Employment & Training Act, 1973, c.50, H.M.S.O.

Evered, J F (1975): 600 Ways to Measure Training Results,  
in Successful Meetings (May 1975) pp  
42-45 and 77-86

Foy, N (1976): Training Tied to the Budget Cycle, in  
The Times (31.8.76) p.14

Friedman, A & Lev, B (1974): A Surrogate Measure for the  
Firm's Investment in Human Resources, in  
Journal of Accounting Research 12.2.235-50

Fryer, D H (1951): Training, with Special Reference to its  
Evaluation, in Journal of Personnel  
Psychology 4.1.19-37

Gagné, R M (1965): The Conditions of Learning, Holt,  
Rinehart and Winston

Gagne, R M and Briggs, L J (1974): Principles of Instruc-  
tional Design, Holt, Rinehart & Winston

Gammie, R (1975): Shopping in the Future, in Retail and  
Distribution Management 3.1.12-14

Garbutt, D (1969): Training Costs, Gee

Gibb, A A (1972): An Investment Appraisal of Training, in  
Journal of European Training 1.1.19-33

Gidengil, B Z (1977): The Social Responsibilities of  
Business: What Marketing Executives  
Think, in European Journal of Marketing  
11.1.72-85



- Gilbert, T F (1976a): The High Cost of Knowledge, in  
Personnel 53.2.11-23
- Gilbert, T F (1976b): Training: the \$100 Billion Opportunity,  
in Training and Development Journal 30.11.3-8
- Giles, W J & Robinson D F (1972): Human Asset Accounting,  
IPM/ICMA
- Goodacre, D M (1957): Experimental Evaluation of Management  
Training, in Personnel 33.534-38
- Gordon, A & Williams, G (1977): What Do You Want To Do When  
You Grow Up, Son?, in Times Higher Educa-  
tional Supplement (1.7.77), p.9
- Great Britain (four Government Departments) (1976): Unified  
Vocational Preparation H.M.S.O.
- The Grocer (anonymous article, 1977): How Training Will Cut  
Shrinkage, in the Grocer (18.6.77), p.4
- Hadden, T (1975): Guidance for Consumers, in New Society  
(18.9.75), pp 638-39
- Hall, N R (1976): Cost-Benefit Analysis of Industrial  
Training, Department of Adult Education,  
University of Manchester.
- Hamblin, A C (1968): Training in Evaluation: a Discussion  
of Some Problems, in R J Hacon (ed.)  
Organizational Necessities and Individual  
Needs, A.T.M. Occasional Paper No.5, pp  
70-81, Blackwell.

- Hamblin, A C (1970): Evaluation of Training, in supplement to Industrial Training International 5.11.33-36
- Hamblin, A C (1974): Evaluation and Control of Training, McGraw Hill.
- Hart, S J S (1976): Training in Distribution: how to Assess its Value, in Retail and Distribution Management 4.4.40-43
- Hart, S J S (1977a): A Scheme for Costing Distributive Training, in Retail and Distribution Management 5.5.18-22
- Hart, S J S (1977b): Determining the Priorities of Training, in Journal of European Training (accepted for publication early in 1978).
- Hartley, K and Mancini, P (1971): The Economics of Industrial Training, unpublished report to the Hotel and Catering I.T.B.
- Hesseling, P (1966): Strategy of Evaluation Research, Van Gorcum
- Hicks, E P and Teasdale, A (1970): Accounting for the Distributive Trades, Intertext Books.
- Hill, J M M (1969): Transition from School to Work, Tavistock Institute
- Hill, S R (1966): The Distributive System, Pergamon



- Hillman, H A (1962): Measuring Management Training: a Case Study, in Journal of the American Society of Training Directors 16.2.27-31
- Hurley, F G (ed.) (1971): Training Retail Managers - a Symposium, I.P.M.
- Hutt, R and Atkinson, A G (1975): Training in Distribution: How much is being Done?, in Retail and Distribution Management 3.2.29-32
- Institute of Manpower Studies (1973): People and Jobs in Distribution, D.I.T.B.
- Jackson, M (1977): Gateway Training Scheme, in Times Educational Supplement (25.2.77) 3221.3
- Jenkinson, P (1974): Retail Staff Turnover, unpublished report for W H Smith Ltd
- Johnson, R (1976): Improving the Quality of Training, in Coombe Lodge Report 9.6.194-98
- Jones, J A G (1970): Cost Benefits in Industrial Training, in Industrial and Commercial Training. 2.11.534-37
- Jones, J A G (1972): Towards a Classification of the Benefits of Training, in Journal of European Training 1.3.212-21
- Jones, J A G and Anderson, W T (1974): Progress in Evaluation and Cost Benefit Research, in Industrial and Commercial Training 6.3.107-11

- Kane, J S (1976): The Evaluation of Organisational Training Programmes, in Journal of European Training 5.6.291-338
- Katcher, A (1976): Why Executive Development Fails to Pay Off, in Training and Development Journal 30.1.45-48
- Keil, E T (1976): Becoming a Worker: the Induction of School-Leavers into Work in Leicestershire, Leicestershire Committee for Education and Industry
- Kirkpatrick, D L (1967): Evaluation of Training, in R L Craig and L R Bittel (eds.), Training and Development Handbook, pp 87-112, McGraw Hill
- Knight, K (1975): The Role of Research in the Real World, in Personnel Management 7.12.14-17 and 33
- Knott, M T (1972): Learning Curves in the Evaluation of Instructional Systems, in Industrial Training International 8.12.372-74
- Korb, L D (1956): How to Measure the Results of Supervisory Training, in Personnel 32.5.378-91
- Lane, K F and Andrew, J E (1955): A Method of Labour Turnover Analysis, in Journal of the Royal Statistical Society, Series A, 118.3.429-40
- Lawrence, K (1973): Some Comments about Training in Distribution, in Retail and Distribution Management 1.1.28-30



- Lees, D and Chiplin, B (1970): The Economics of Industrial Training, in Lloyds Bank Review 96.29-41
- Lev, B and Schwartz, A (1971): On the Use of the Economic Concept of Human Capital in Financial Statements, in Accounting Review 46.1.103-12
- Lewis, J (1977): Liaison between Schools and Industry: the U.B.I. Project, in Industrial and Commercial Training 9.8.346-47
- Lewis, R G and Steed, I (1977): A Study of the Effectiveness of Branch Level Training in Some Retail Multiples, unpublished report, about to be submitted to the Distributive I.T.B.
- Lippitt, G L (1976): As Others See Us, in Training and Development Journal 30.1.22-23
- MacArthur, D G (1976): Training - why not Get Your Money's Worth?, in Canadian Personnel and Industrial Relations Journal (March 1976) pp 41-44
- Macdonald-Ross, M (1973): Instructional Science 2, Amsterdam Elsevier Scientific Publishing Co.
- Mackinney, A C (1957): Progressive Levels in the Evaluation of Training Programs, in Personnel 34.72-77
- McKinnon, R (1976): Customer Training as an Aid to Marketing, in Training 1.10. 6-8
- Mager, R F (1962): Preparing Instructional Objectives, Fearon

- Mahler, W R (1953): Evaluation of Management Development Programs, in Personnel 30.2.116-22
- Malt, L G (1966): Ensuring Effective Retail Training, in Industrial Training International 1.9.255 and 268
- Management Today (editorial, 1972): The Ethics of Management, in Management Today (10.12.72), p 10
- Martin, H O (1975): The Assessment of Training, in Personnel Management 39.340.88-93
- Meigniez, R (ed.) (1963): Evaluation of Supervisory and Management Training Methods, O.E.C.D.
- Men's Wear (anonymous article, 1975): Training is the Key to Higher Profits, in Men's Wear (18.12.75) pp 32-33
- Miller, R B (1962): Task Description and Analysis, in R M Gagné (ed.), Psychological Principles in System Development, pp. 187-228, Holt, Rinehart and Winston
- Miller, R B (1975): Taxonomies for Training, in W T Singleton and P Spurgeon (eds.), Measurement of Human Resources, pp 25-47, Taylor and Francis
- Mincer, J (1962): On-the-Job Training: Costs, Returns and some Implications, in Journal of Political Economy, supplement on Investment in Human Beings, 70.5.50-79



- Mondy, R W (1974): A Model for Predicting Employment Tenure of Convenience Store Managers, unpublished Ph.D. Thesis, Louisiana Tech. University
- Morano, R (1975): Measurement and Evaluation of Training, in Training and Development Journal 29.7.42-46
- Moreton, T (1973): The Future of the Training Profession, in The Training Officer 9.7.191-95
- Morris, L N (1977): Training Profitably, in Training 2.10.12-14
- Morse, W J (1975): Estimating the Human Capital Associated with an Organization, in Accounting and Business Research, 6.21.48-56
- Murdick, R G (1960): Measuring the Profit in Industry Training Programs, in Journal of the American Society of Training Directors 14.4.23-29
- Nixon, G (1973): People, Evaluation and Achievement, Gulf
- Nutbeem, J F L et al. (reported in anonymous article, 1975): Show Bigger Returns on Training Dollars, in Successful Meetings (May 1975) pp 40-41 and 142-46
- Oatey, M (1970): The Economics of Training with Respect to the Firm, in British Journal of Industrial Relations 8.1.1-21

- The Observer (anonymous article, 1977): Shopping by Post - it's a Sales Bonanza, in The Observer (20.3.77)
- Odiorne, G S (1961): Evaluation of Management Training: what do we Know about it?, in Journal of the American Society of Training Directors 15.3. 4-12
- Odiorne, G S (1964): The Need for an Economic Approach to Training, in Journal of the American Society of Training Directors 18.3.3-12
- Pearson, R (1974): People and Jobs - the Perennial Problem: Labour Turnover in Distribution, in Retail and Distribution Management 2.6.18-22
- Personnel Management (anonymous article, 1976): Does Management Development Pay?, in Personnel Management 8.4.17.
- Pettman, B O (1971): An Incentive to Train, in Personnel Management 3.9.31-34
- Pettman, B O (1974): Industrial Training - who Pays? in Education and Training 16.9. 212-13
- Pritchard, K and Sienko, M (1977): Evaluation of Training in Company B, in Lewis and Steed, op.cit., pp 77-159
- Rackham, N (1973): Recent Thoughts on the Evaluation of Training, in Industrial and Commercial Training 5.10.454-61



- Retail and Distribution Management (anonymous article, 1975):  
The Role of the Hypermarket in Holding down Prices, in Retail and Distribution Management 3.1.6-10
- Reuter, V G (1976): Methods Improvement with Pareto's Law, in Journal of Systems Management 27.12.23-28
- Ritchie, J R B, Kinnear, T C and Claxton, J D (1976):  
Evaluation Research: its Roles and Applications in the Program Management Process, in Optimum 7.2.5-20
- Roberts, J and Stone, M (1975): Cost Effectiveness: the Training Officer's Lifeline, in Personnel Management 7.9.27-30
- Ryall, R J (1952): Dictionary of Costing, Pitman (3rd ed.).
- Savich, R S and Ehrenreich, K B (1976): Cost/Benefit Analysis of Human Resource Accounting Alternatives, in Human Resource Management (Spring 1976) pp 7-18
- Scharf, A D (1973a): Pareto's Law, in Industrial Business Management (May 1973) pp 1-8
- Scharf, A D (1973b): More Pareto's Law, in Industrial Business Management (June 1973) pp 1-8
- Scharf, A D (1973c): How to Use Pareto's Law, in Industrial Business Management (July 1973) pp 1-8
- Schwind, H (1975): Issues and Problems in Training Evaluation, in Canadian Training Methods 8.1.14-15 and 8.3.22-25

- Scriven, M (1967): The Methodology of Evaluation, in R W Tyler, M Gagné and M Scriven, Perspectives of Curriculum Evaluation, A.E.R.A. Monograph Series in Curriculum Evaluation No. 1, Rand McNally
- Sewell, D O (1967): A Critique of Cost/Benefit Analysis of Training, in Monthly Labor Review 90.9.45-51
- Seymour, W D (1954): Industrial Training for Manual Operations, Pitman
- Shingleton, G H (1974): The Cash Register and the Point-of-Sale Revolution, in The Distributor 1.4.137-38
- Smurthwaite, R (1960): Welcome, Stranger, B.A.C.I.E.
- Solomon, R L (1949): An Extension of Control Group Design, in Psychological Bulletin 46.2.137-50
- Speh, T W (1977): A Summary of Doctoral Research Relating to Retailing, in Journal of Retailing 53.1. 73-82 and 96
- Stainer, G (1971): Manpower Planning, Heinemann
- Stoppard, S M (1976): How to Make School Leavers more "Employable" in Supervisory Management 27.4.26
- Suessmuth, P (1974): Training Ideas Found Useful: The True Cost of Training, in Canadian Training Methods 7.4.19-21
- Talbot, J R and Ellis, C D (1970): see 'Ellis'



- Taylor, J and Reid, R L (1965): Programmed Training in a London Store, in Occupational Psychology 39.1.57-58
- Thomas, B, Moxham, J and Jones, J A G (1969): Cost Benefit Analysis of Industrial Training, in British Journal of Industrial Relations 7.2.231-64
- Thorley, S (1971): Management Training - is it Worth it? in Personnel Management 3.1.23-28
- Training Services Agency (1975): Grouping of Skills, preliminary report for discussion, T.S.A.
- Training Services Agency/Manpower Services Commission (1975): Vocational Preparation for Young People, H.M.S.O.
- United Kingdom, Hansard (1977): House of Commons, Vol. 933, No.99, cols. 631-32
- United Kingdom, Statutory Instrument 1968/1032: Industrial Training (Distributive Board) Order, H.M.S.O. (1968 II, p 2709)
- United Kingdom, Statutory Instrument 1971/1876: Industrial Training (Distributive Board) Order (Amendment) Order, H.M.S.O. (1971 III, p 5109)
- Unit for Retail Planning Information Ltd (1977): Shop Register, in U.R.P.I. Newsletter, Spring 1977

- U.S.A., War Manpower Commission (1945): The Training Within Industry Report 1940-1945, W.M.C.
- van Ginneken, P J (1963): The Different Levels of Evaluation of Training, in R Meigniez op. cit., pp. 102-03
- Wallace, S R and Twichell, C M (1953): Evaluation of a Training Course for Life Assurance Agents, in Personnel Psychology 6.1. 25-43
- Walsh, C M (1926): The Four Kinds of Economic Value, Humphrey Milford (Harvard U.P.)
- Warr, P B (1969): Evaluating Management Training, in Personnel (London) 2.2. 26-29 and 36
- Warr, P B, Bird, M and Rackham, N (1970): Evaluation of Management Training, Gower Press
- Weisbrod, B A (1966): Conceptional Issues in Evaluating Training Programs, in Monthly Labor Review 89.10. 1091-97
- Wentling, T L and Lawson, T E (1975): Evaluating Occupational Education and Training Programs, Allyn and Bacon
- White, D (1976): A North West End, in New Society (19.2.76), pp. 373-74
- Whitelaw, M (1972): The Evaluation of Management Training: A Review, I.P.M.



- Wilkinson, R (1975): If you can't Measure it ... you can't Train it!, in the Training Officer 11.3.  
77-78
- Williams, E H (1973): Organising a Company Training Programme, in Retail and Distribution Management 1.3. 40-42
- Williams, G L (1976): The Validity of Methods of Evaluating Learning, in Journal of European Training 5.1. 12-20
- Wood, G (1974): How Management Teachers Can Help Small Firms, in Industrial and Commercial Training 6.11. 498-503
- Wood, M (1974-76): A Nation of Shopkeepers, in Cooperative Management and Marketing 7.10, to Cooperative Marketing and Management 1.11
- Woodhall, M (1974): Investment in Industrial Training, in British Journal of Industrial Relations 12.1. 71-90
- Woodward, J (1969): The Saleswoman, Pitman
- Woodward, N (1975a): A Cost-Benefit Analysis of Supervisor Training, in Industrial Relations Journal 6.2. 41-47
- Woodward, N (1975b): The Economic Evaluation of Supervisor Training, in Journal of European Training 4.3. 134-47

- Woodward, N (1975c): Costing the Tradesman's Entrance, in  
Personnel Management 7.11. 23-25
- Woodward, N (1976): Some Notes on the Quantity Objective of  
the British Industrial Training Act, in  
International Journal of Social Economics  
3.1. 2-13
- Works Management (anonymous article, 1975): Human Asset  
Accounting, in Works Management 28.10. 76-77
- Ziderman, A (1969): Costs and Benefits of Adult Retraining  
in the U.K., in Economica 36.144. 363-76



results which will be monitored by evaluation and those which will not.

Evaluation, however, does not consist solely of measuring the results of training; the question of costs must also be considered. It has been pointed out that a reduction in costs can be beneficial in itself; in addition, it is likely to be an estimate of the cost which makes it possible to proceed from noting the results of training to demonstrating that the training is justified as an investment. Studies have taken place in supermarkets and elsewhere where the time involved in designing, carrying out and monitoring training was noted, and where it was possible to compare this with the time saved when the job concerned was carried out more efficiently. In other cases, the measurement of costs alone can be a worthwhile exercise, especially where it is felt that the problems of measuring results are too great. An exercise carried out (by the same company as in example (7)) involved an 'overhead analysis' of its head office training department, where a target for cost reduction was set, and an analysis made of the amount of money and time spent on each of the various activities with which the department was involved. It did not prove possible to reduce every activity by the target, which was set, at 40%, to be intentionally high; but the exercise provided an impetus for reducing the effort put into training where its justification was questionable—and without any consideration of the benefits involved.

The difficulty is that, where no result are measured, the benefits lost may have exceeded the costs saved. The training manager is left to judge, largely by instinct, whether the information he has obtained suggests that the training exercise has reached the point where marginal increases in costs exceed the marginal benefits they bring about.

The position here is similar to a great deal of this research, where there is an apparent conflict between the demands of scientific rigour and those of practical application. It is often not possible, or not practicable, to set up a control group, and compromises have to be made. Sometimes the effort involved in monitoring or measuring results is not justified by the type of information obtained. However, where the exercise is

intended as no more than a general indication to management of the likely effects of training, the need for scientific rigour is less than where a broad, general theory about the value of training is desired. Fortunately, most actual cases of evaluation occur in the former circumstances. Part of the skill of the executive's job is to take decisions on the basis of incomplete information; and, no matter how 'scientific' the results of an exercise, they will be translated into action only when considered alongside the subjective information a manager receives about changes in the organization, in work being done, and so on.

It should be clear, however, that in the midst of a great deal of uncertainty about the value of training, there are often methods available for establishing *in part* what an operation is worth. It is unlikely that these will ever provide all the information that a manager or trainer requires for taking decisions on training, but in some cases they can be of major assistance.

No article on research, however, would, be complete without the recommendation that 'more research needs to be done'. Our lack of knowledge on this field is still immense, and many other methods of training and evaluation need to be looked at. Among the studies being carried out at present, either by the writer or others, are the following:

(i) an analysis of a course in bacon preparation in a supermarket chain, comparing its cost with the on-the-job training carried out previously, and assessing the improvement in trainee performance after the course, by investigating changes in sales, wastage, hygiene levels, etc.

(ii) measurement of improvements after branch managers in a multiple confectioner and tobacconist have been trained in stock control; sample audits and measures of long-term performance are compared between the stores where managers have been trained and control groups where managers have not participated.

(iii) an evaluation of the effects of programmed instruction manuals on sales techniques, for staff in a multiple shoe retailing organization, using experimental and control groups of stores picked on a 'matched pair' basis.

(iv) an assessment of the effectiveness of an in-company middle management course with assigned projects, in a

company manufacturing and distributing industrial equipment.

(v) an evaluation of a course in letterwriting run for sales staff in an Oxford Street department store, by estimating the clerical time involved in correcting correspondence.

(vi) establishing priorities among training programmes to be carried out by a manufacturer and distributor of building equipment, so that the effort is concentrated in the most practicable and profitable areas of training.

(vii) measurement of the effects of courses in instructional techniques to produce trainers in selected branches of an electrical wholesaling company, with the unselected branches to serve as a control group.

(viii) an assessment of the management development system of a multiple retailing and wholesaling company, possibly by applying techniques of human asset accounting to the value of the employees' training, work performed and staff retention.

(ix) costing the total training investment of a mail order company, with a view to defining the return necessary to justify the training carried on.

(x) an analysis of the results of sales training courses in a multiple furniture retailer, by comparing the trainees with a matched control group.

(xi) a further study of the measurements that can be carried out on the performance of mail order packers, so that different training approaches can be compared.

If these studies are successful, they will show that the problem of justifying the value of training can be approached from many angles<sup>1</sup>, and that techniques to assist the training executive are available in a wide set of circumstances ●

#### References

- Campbell, J.P., Dunnette, M.D., Lawler, E.E., III, and Weick, K.E., jr., "Managerial Behaviour, Performance and Effectiveness", McGraw-Hill (1970), pp.119-123.  
Hillman, H.A., "Measuring Management Training: a Case Study", in *Journal of the American Society of Training Directors*, 16.3.27-31 (1962).

<sup>1</sup> The writer would appreciate information on any other studies in this field that have been carried out or are under consideration. He may be contacted care of the Distributive Industry Training Board, MacLaren House, Talbot Road, Manchester M32 0FP.



others were measured by noting the time spent by instructors when the trainees referred to them (this was very small). The financial benefits were assessed by comparing the stock used up (which related to sales) by the trainees, before and after training, and with the stock used by a control group of untrained assistants. In addition, photographs were taken of the assistants before and after training, and independent judges were able to distinguish the 'after' photographs with almost total success!

#### Setting up a control group

Here the problem of external factors is overcome in the classical way, by establishing a control group of assistants who are not trained by the method being studied. Many organizations in distribution find themselves at an advantage in having a large number of disparate branches, which can sometimes be grouped into experimental subjects and controls. However, this method also has its problems, which will have to be dealt with later.

In addition, the question of cost arises here, where the effort needed from training staff was determined. Those planning training should bear in mind that the costs of alternatives can influence the training's value just as much as any direct effects.

5) *A mail order company* in the north of England considered its training in physical handling in the warehouse. Its order assemblers were trained on-the-job, taking an average of three weeks until the job was adequately known, and a further three weeks for experienced worker standard to be reached. After formalizing the training programme, using some off-the-job sessions, and involving a part-time instructor, trainees achieved E.W.S. after an average of two weeks.

The method used here reduces the risk of contamination by external factors by approaching the question of value from the angle of reduced costs rather than beneficial results. The eventual performance is the same, but it is achieved more cheaply; in the effect, the change in training is its own result, so that there is less opportunity for contamination by other factors. However, the possibility is not to be ignored altogether; for factors such as increased motivation in trainees, improved quality of recruits, etc., might have assisted in bringing

about the same results.

6) *Another mail order company* in the north of England analysed its training system for agency clerks. The clerk's job is a major one, as it involves the contact between the company and their agents in the field. The analyst found that some simple routines had too much time devoted to them, while certain rare contingencies were dealt with in great detail. By shortening the time spent on the simple routines, and by arranging for the rarest occurrences to be dealt with by management when they arose, a new course was designed. On this new course, the average time taken by trainees to reach experienced worker standard was 4½ weeks, as against 6½ weeks originally.

#### The evaluation method

As in the previous example, it is the change in the cost that is measured. In addition, this is an instance of the feature noted in (3) above; the training manager was able to use the information provided by the study as to where the training appeared to have most effect. Hence the evaluation method, in these cases, led directly to an improvement in the training itself—which, as has been noted, is one of the main justifications for evaluating.

7) *Secretaries* at the head office of a large distributive company in the north-west of England participated in a training course at a local college. The company was able to record a striking reduction in turnover amongst these employees after this training.

In fact, no figures were recorded for this study, so that the training officer's 'measurement' was totally subjective. However, on this occasion, such a subjective assessment was considered adequate to his needs, so that the lack of detail should not necessarily be seen as a shortcoming. It often happens that detailed records are not kept by an organization in a manner that makes them easily accessible for this type of work (or, if kept, they are not always retained for periods long enough to allow significant changes to be measured). Perhaps this is especially true of staff turnover, where providing accurate data may involve many hours of working through records. Greater planning is often desirable in the personnel systems of many organizations, although this will never replace the essential value of subjective judgments in many areas of management.

When such judgments are made, however, one of the two major problems in evaluation has to be accepted. This is as follows: assuming it is possible to measure results after training, how is it known that these were caused by the training, and not by other factors? The national economy, changes in company policy or systems, management or staff personalities—such influences as these can have a radical effect on performance, and so can contaminate the results of training. The case of staff turnover is a very likely one to be influenced by external economic factors; most companies noticed a fall in turnover between 1974 and 1976, which it would be foolish or arrogant to attribute solely to training.

A number of examples have shown methods of overcoming this problem, but it is one that is likely to persist.

In many cases, despite the advantages of having separate branches, it is not possible to establish control groups, as was done in example (4). It would involve deliberately not training some staff, at least for a while, and the consequences of that have to be balanced against the advantages of running a controlled experiment. If the use of a control is going to involve untrained staff using dangerous machinery, for instance, or the risk of greatly offending customers, the trainer may have to compensate on the design of his evaluation, and add the proviso to the results, that they may be contaminated by factors other than training.

#### Defining the results

The other major problem is that of defining the precise nature of the results to be measured. This has been touched on in many of the cases cited, and is related to the questions of defining objectives accurately and of having the correct information systems available. It is almost certain, in addition, that any training will have results outside the scope of those that are identified by evaluation. These results will, hopefully, be largely beneficial—the opportunity for a course participant to take a fresh look at his job, the chance to meet colleagues he seldom encounters and to discuss matters of mutual concern with them, and so on—even though it may not prove possible to measure them. Consequently, anyone involved in evaluation may need to make a subjective assessment of the sorts of



period of time. Consequently, studies in this area have to be conducted in some depth, and are best continued for some years if they are to produce significant results. Then the effects of training become difficult to distinguish from the effects of other factors, a further problem which will recur in these examples.

This exercise appears to be the only example on record of evaluating training in general management skills in distribution.

2) *Campbell et al. (1970)* report on their study in Penney, the American department store, of asking managers for examples of typical employee behaviour of different degrees of excellence. From this they constructed a number of nine-point scales consisting of paradigms of good, bad and indifferent behaviour. These scales were used to obtain managerial ratings of subordinates, so that the effects of training and development could be measured by comparing ratings made at different points in the process.

This example illustrates particularly how investigations carried out on one occasion can provide criteria by which subsequent training can be judged. It does not concern itself with the financial benefits of training, but it manages to show that, in an area notoriously difficult to measure, practical criteria other than cash return are available. Where social skills are involved, the effects of styles of behaviour of managers, sales assistants, etc., are particularly hard to quantify. An added complication arises where objectives are not expressed in behavioural terms. In this example, however, behavioural analysis becomes the method for establishing measurement of results.

Once again, the question of identifying the real cause of the change is raised, and this will be considered in due course.

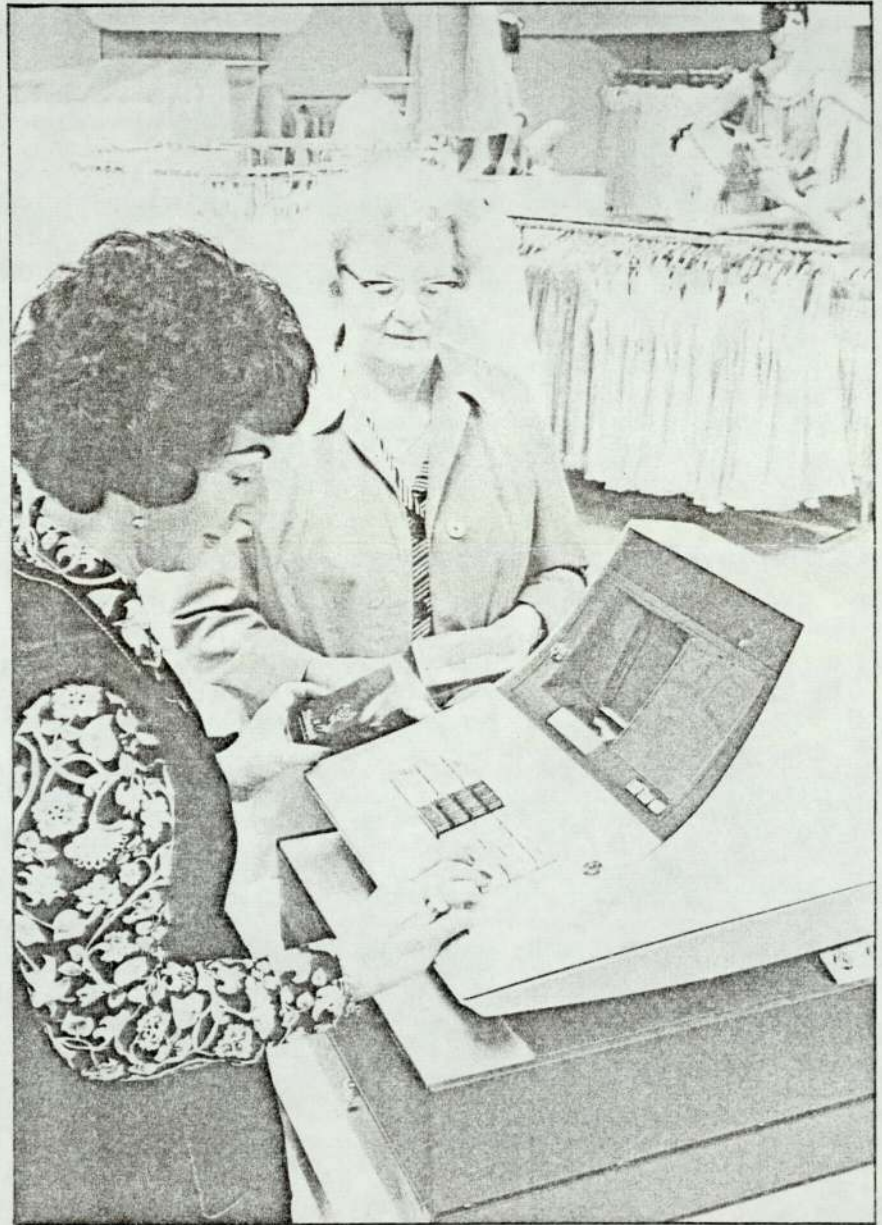
3) *An Oxford Street department store* developed its own seven-point rating scale for customer relations, based on the example in (2), and applied this to a course for section managers. Improvements from this were noted, and compared with participants' own logging of critical incidents in the form of customer complaints. This log enabled the store to establish in what departments savings were most likely to be achieved from complaint handling; and, in conjunction with the managerial ratings, gave an estimate of how great

the savings might have been that were due to the training. The exercise also suggested which groups of staff might most profitably participate on the course, and, in very general terms, the possible difference in financial return between these groups.

The exercise shows the type of method by which behavioural measurements can be linked to those of financial returns, and suggests that information not normally available can be acquired by a careful design of the right techniques. Even so, the results in practice showed that a far from complete picture was produced

from the exercise. It is not likely to be possible to record every small incident that occurs at work, but a conservative estimate of results can often be made, provided enough forethought is put into the matter.

4) To improve the marketing of their products, a *cosmetics company* asked their sales assistants to follow a programmed package, consisting of a booklet and samples of make-up. The package was intended to display the cosmetics at their best, by improving the assistants' own appearance and their product knowledge. The advantages of this method of training over





# Training in Distribution

## HOW TO ASSESS ITS VALUE

Stephen J S Hart

Research Officer, DITB

The problem of how to assess the value of training in terms of its effects on turnover and profitability is not a new one for retail management. Certain specific consequences—declining

staff turnover, absenteeism, and accident rates—are relatively easily quantifiable. Reduction in customer complaints can also be recorded. But training is sure to have results outside

the scope of those identified by evaluation. The writer discusses a number of case studies in training and concludes with the plea that more research needs to be done.

CAN A value be put on the training that an organisation carries out, or even on individual training programmes?

This question has received some degree of attention in recent years, as expenditure in the training field has increased; but perhaps more work has been done in areas such as manufacturing than in distribution. The effects of training appear easiest to measure where the output of physical skills is involved, and the high content of interpersonal, social skills in distributive fields (and particularly in retailing) may have deterred those concerned with such training from attempting to assess its contribution to efficiency.

It is customary for articles about the evaluation of training to claim that every manager and training officer should strive to 'prove that training pays'. The argument goes that, during any cost-reduction drive, the first budget to be scrutinized for cutting will be training. This allegation is seldom supported with examples, but it is presumably believed that an appeal to a training department's instincts of survival will be the best way of making them appreciate the importance of evaluation.

There are, of course, more constructive reasons for attempting to assess what training is worth. For one

thing, reducing unjustifiable costs should be a management concern whether or not unusual pressure is being placed, and the use of evaluation techniques can be a major form of management self-discipline. Again, a knowledge of costs and results can make a large contribution to improving the nature and the effectiveness of the training.

### Suitable techniques

Once evaluating training is agreed to be desirable, the question of what techniques are suitable and valid has to be considered. Here again, many of the published articles seem to offer more problems than solutions. Problems do indeed exist, but training managers are often surprised by what has taken place, even in their own companies, that can be described as evaluation. Without touching at this stage on a definition of 'evaluation', this article is aimed at outlining a few examples of such exercises. These are all taken from organisations involved in (using the word in its broadest sense) "distribution".

1) *Hillman (1962)* reports on a management training programme, on subjects in industrial relations and general leadership, carried out in an American wholesale company with more than 150 branches. The programme aimed to achieve a number of

improvements in performance, including a reduction in accident rate, in absenteeism and staff turnover. Striking improvements were noted, by comparing figures for the year following the training with the average performance over the previous five years. Thus accidents were reduced by some 50% and staff turnover was 30% less.

Hillman also notes a more controversial measure of training "value", in that fewer requests were made for trade union representation after the training. Lack of desire for union membership might have been considered a reasonable measure of management capability in America fifteen years ago, but perhaps such an attitude is out of date in contemporary Europe, and may bring about the results it seeks to avoid. However, there are doubtless some companies in distribution which continue to use such a criterion, and it is important that every organisation should decide on its own measurements of efficiency.

### The effects of training

This study illustrates one particular feature of management training, which in some ways poses additional problems for the evaluator; its ultimate purpose is often to adapt the behaviour, not of the participants, but of their subordinates—and this in a variety of ways, over an extended



- (c) maintenance of training equipment
- (d) maintenance of administration equipment
- 3) *ITB levy*
- 4) *Materials and equipment:*
  - (a) stationery
  - (b) telephone and postage
  - (c) training aids
  - (d) hire of equipment (projectors, etc.)
  - (e) software (services of consultants, etc. — but see (13) below)
- 5) *Staff sundry expenses*
- 6) *Administrative staff:*
  - (a) salaries and wages
  - (b) national insurance, graduated pensions, etc.
  - (c) 'perks'
  - (d) pension scheme
- 7) *Instructional staff:*
  - (a) salaries and wages
  - (b) national insurance, graduated pensions, etc.
  - (c) 'perks'
  - (d) pension scheme
- 8) *Long-term trainees:*
  - (a) salaries and wages
  - (b) national insurance, graduated pensions, etc.
  - (c) 'perks'
  - (d) pension scheme
  - (e) sundry expenses
- 9) *Short-term participants:*
  - (a) salaries and wages
  - (b) national insurance, graduated

on levy (3). These will normally be well estimated in advance. In addition, details of staff conditions, pay, etc. can be obtained, so that the cost of administrative staff (6), instructional staff (7), long-term trainees (8) and (at least in part) short-term participants (9) and instructors from other departments (10), can be predicted, and adjusted during the period necessary.

As they occur during the period, a record is kept of services to buildings (1 c-e), capital equipment (2 c-d), materials and equipment (4), staff expenses (11), external course fees (12) and consultants' fees (13). This record also monitors the time involved in training, so that recharges can be made as they arise, for short-term participants (9), instructors from other departments (10), and training of training staff either generally (14) or for specific programmes (15).

At the end of the period, those costs which have arisen from specific programmes (7, 9, 10, 12, 13, 15; and possibly parts of 4 and 5) are finally charged to the trainees' departments. The other costs are split according to the number of man-days trained. This is the total number of days spent by each trainee in training during the course of the period, and each client department should be charged for internal courses with these costs according to the formula:

$$\frac{\text{Number of man-days trained in department}}{\text{Number of man-days trained in organisation}} \times \text{total costs.}$$

- (c) pensions, etc.
- (c) 'perks'
- (d) pension scheme
- 10) *Instructors 'hired' from other departments:*
  - (a) salaries and wages
  - (b) national insurance, graduated pensions, etc.
  - (c) 'perks'
  - (d) pension scheme
- 11) *Participants' sundry expenses*
- 12) *External course fees*
- 13) *Consultants' fees for development of training programmes*
- 14) *Training of training staff*
- 15) *Training of training staff for specific programmes*

A costing system needs adequate records. Information should be collected on the depreciation and the rent of buildings (1 a-b), on depreciation of capital equipment (2 a-b) and

The expense group in each client department to receive these recharges should be called 'training expenses', or something similar. Its existence will allow comparison between the departments of the amount spent on training, and will also allow the costs of training to be compared with the results, if steps have been taken to measure them. The precise design of these systems will need collaboration between the functions concerned, and will depend on the accounting systems already in operation.

The result of installing such a system will be that a statement of training costs can be made which is complete and which permits real comparisons to be made between training in different departments. In turn, this provides a first step to assessing training as an investment, and controlling

the function so that the best return possible is obtained from it. Economists might argue that some other 'costs' have not been included — for instance, alternative opportunities sacrificed by the decision to invest in training. Management should be aware of these, but it is doubtful whether they should form part of a system to assess the accounting outlays of training. They are a further aspect of the cost/benefits of training, of which the system described is merely one part.

Finally, one admission must be made. Another result of using the system might be that the firm finds itself presented with one massive figure which represents the total cost of training. If that is seen as a valuable management aid, so much the better; but possibly some may fear it will be used as an excuse to cut training back. Perhaps that is why so few distributive firms appear to have carried out such an exercise ●

#### References

1. D Garbutt, *Training Costs*, Gee, 1969.
- B Thomas, J Moxham & J A G Jones, *Cost Benefit Analysis of Industrial Training*, in *British Journal of Industrial Relations*, 7.2.231-64 (1969).
- P Suessmuth, *Training Ideas found Useful*, in *Canadian Training Methods* (December 1974), pp. 19-21.
- N Woodward, *A Cost-Benefit Analysis of Supervisor Training*, in *Industrial Relations Journal*, 6.2.41-47 (1975).
2. T L Wentling and T E Lawson, *Evaluating Occupational Education and Training Programs*, Allyn & Bacon, 1975.
3. Such as E P Hicks & A Teasdale, *Accounting for the Distributive Trades*, Intertext Books, 1970 (2nd. ed., 1975).
4. See: G M N Baker, *The Feasibility and Utility of Human Resource Accounting*, in *Personnel Management*, 14.4.17-23 (1974).
- R S Savich & K B Ehrenreich, *Cost/Benefit Analysis of Human Resource Accounting Alternatives*, in *Human Resource Management* (Spring 1976), pp. 7-18.
- G Stainer, *Manpower Planning*, Heinemann, 1971.



circumstances than when carried out by members of the training function or by external consultants.

Calculations for these last two expense groups are likely to involve both taking a proportion of total expenditure and recharging from another department's accounts. The proportion to be taken should be:

$$\frac{\text{Number of days (or hours, etc.) off the job}}{\text{Total number of days (hours, etc.) worked}} \text{ per annum.}$$

By deducting holidays and, where possible, an estimate of days absent through sickness, etc., a proportion of the costs of providing these working conditions will be taken into account. Where employees work for only part of a longer operating week (as happens frequently in retailing, though less in mail order), then only the amount worked should be included in the calculation of the total number of days per annum (although equipment, of course, might still be 'in use' for the longer period).

The actual mechanism for recharging the proportion of participants: employment costs (9) to training is largely a matter of taste. As will be seen, the total costs of training will in the end be recharged out to the client departments, and so it might seem sensible to make participants' employment and expense group within each department, to which recharges would be made from the staff employment expense groups. This would mean, however, that costs would be dispersed among the departments, and it would frustrate the aim of collecting all training expenses together to allow total costs to be calculated. Perhaps a better alternative is to charge the employment costs of participants to the training function, so that cumulative estimates of training expenditure can be made; even though it is known that these costs will be directly recharged back to each line department.

A similar principle applies to certain other costs which are likely to be specific to courses in the short-term: (11) *Participants' Sundry Expenses* This item will consist mainly of travel, food, accommodation, and a few minor expenses. Often these are not distinguished in costing systems from the expenses of training staff (5); but, since the latter may be spread over a

number of training programmes, it is more appropriate to treat the two as different expense groups.

#### (12) *External Course Fees*

These two expense groups can be held in the training function's accounts, pending a recharge to the client department.

In the case of (13) *Consultants'*

#### *Fees for Development of Training Programmes*

it may well be appropriate to allocate the cost over the number of courses of the programme which it is anticipated holding. Any value remaining at the end of an accounting period will have to be considered as a 'software asset' and treated similarly to other assets that have been mentioned. This may cause some problems if the organisation's accounting practice is not attuned to such a prospect, but circumstances can be envisaged where it may be significant enough to justify a change in accounting procedure. Attempts have been made at designing systems in which the trained manpower is considered a depreciable asset<sup>4</sup>, although the unknown factors involved are likely to make this a rather dangerous quest. Yet the concept of training itself as an asset can be of use, and this is a good example.

It is worth insisting once again that it is unlikely that a list of expense groups will be exhaustive, or that every group will be relevant in every case. The types of cost given above are, hopefully, the main ones, but circumstances may cause additional ones, or sub-divisions, to be appropriate. One further cost should definitely be added, and that is:

#### (14) *Training of Training Staff*

This is an expense group which should be present in every department's accounts in the form of 'training of staff', and it will be seen to be the group receiving recharges from the training function for the latter's services. In the same way, this training function account will receive recharges from elsewhere. In fact, this account can be conveniently divided into two, depending on whether the staff are being trained generally to improve their job performance, or specifically to permit the development, administration or teaching of a parti-

cular training course within the organisation. Since, in the latter case, the method of recharging from the centre will be slightly different, it is worth putting training for this purpose under the expense group:

#### (15) *Training of Training Staff for Specific Programmes*

The method of recharging to groups (14) and (15) is the same for both. A proportion of levy (3) will be attributed in every case, and for external courses there will be specific recharges from participants' expenses (11) and external course fees (12). For internal courses, a long term share from expense groups (1) to (5) should be recharged on the basis of man-days trained, together with a recharge from instructors 'hired' (10) and consultants' fees (13) if appropriate. There should in addition be a recharge for the participant's time spent on training, taken from either expense group (6) or (7) or (8), depending on the classification of the participant (technically this should be a recharge to expense group (9) for short-term participants, and thence to (14) or (15), but this becomes unnecessarily complex).

The point of this operation is to isolate all the costs of training members of the training function, so that these can be compared with the similar costs in other departments. It is true that all these costs are eventually to be recharged to the functional departments, and that for that purpose expense groups (14) and (15) are not needed; but it is their comparative use that might make it worthwhile to establish them as a means of monitoring the amount spent on training within the training function.

#### Summarised list of expense groups

In summary, then, a provisional list of expense groups can be given, for modification according to the conditions of individual firms. It is as follows:

- 1) *Buildings and land:*
  - (a) depreciation
  - (b) rent
  - (c) rates, water, insurance, etc.
  - (d) electricity, gas, oil, etc.
  - (e) maintenance
- 2) *Capital equipment:*
  - (a) depreciation of training equipment (e.g., projectors, fork-lift trucks, cash registers)
  - (b) depreciation of administrative equipment (e.g., typewriters, photocopiers)



which the equipment is used. Typically, the formula for calculating the share will be:

$$\frac{\text{Number of days' use in training}}{\text{Total number of days in use}} \times \text{Amount written off}$$

assuming that the period under consideration is the same for each statistic. If the equipment is not in constant use, a log will have to be kept, or else an estimate made of the total amount of use. If it is in constant use, the total number of days will involve every day when one of the departments using it is operational, i.e., Sundays and 'statutory' holidays will normally be excluded, while in many distributive firms Saturday usage may be normal. The details clearly depend on the particular circumstances of the business, but it is important to note that the depreciation must be written off during times of business and use of the asset, and not while it is idle. The details also depend on the type and length of usage; there may be some equipment where the cost needs to be allocated by the hour (a photocopier, perhaps), although very often an organisation will have a special allocation system for costs between many departments in such a case.

On the subject of proportioning costs between departments, it may be queried how far the detail of recharges and shares should go, both over depreciation and other costs. There can be no exact rule in this case, other than the general principle that the greater the detail, the more accurate the information is likely to be. If the point is reached when monitoring and calculating costs become too time-consuming in comparison with the size of the costs themselves, the procedure has probably ceased to justify itself. This is a problem in all training evaluation, but it is also a problem of accounting in general. Very often it is mitigated in practice by arranging expense groups so that a number of comparatively small items (electricity charges, etc.) are collected into one larger centre which is then split between departments.

(3) *ITB Levy* – Training board levies are often ignored by those costing training. However, they must be considered as a cost of the training function, while training board grants should also be taken into account

where appropriate, among the benefits of training. Now that many boards, including the DITB, are introducing a

levy remission scheme, it will normally be the levy alone that needs consideration – unless a particular element of training attracts a special grant, or can be shown (which is unlikely) to increase the amount of levy remitted.

- (4) *Materials and Equipment*
- a) stationery
  - b) telephone and postage
  - c) training aids
  - d) hire of equipment (projectors, etc.)
  - e) software (services of consultants, etc. – but see (13) below)

Perhaps this is a heterogeneous group, although it makes sense to class these items together, since they are all expenses of administering the training function. The comments made above set about sharing expenses between departments may well apply here.

- (5) *Staff Sundry Expenses*
- (6) *Administrative Staff:*
- a) salaries and wages
  - b) national insurance, graduated pensions, etc.
  - c) 'perks'
  - d) pension scheme
- (7) *Instructional Staff:*
- a) salaries and wages
  - b) national insurance, graduated pensions, etc.
  - c) 'perks'
  - d) pension scheme

It is right to make a distinction between the instructional and administrative staff, even though some people may divide their time between the two; there is a difference in the purpose for which the cost is incurred. In addition, the time of instructional staff is often attributable to a specific training programme, whereas the administration may be, or may not.

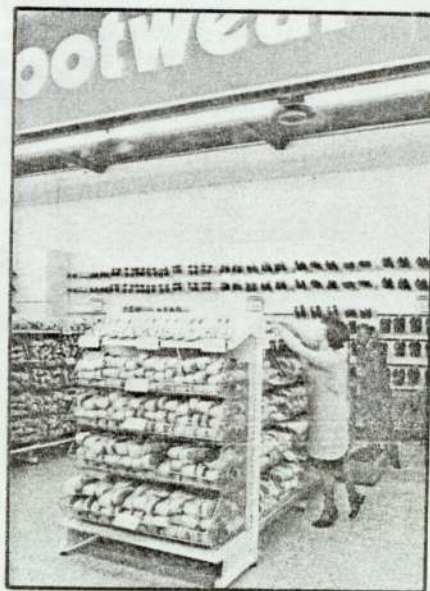
- (8) *Long-Term Trainees:*
- a) salaries and wages
  - b) national insurance, graduated pensions, etc.
  - c) 'perks'
  - d) pension scheme
  - off, e) sundry expenses

This is an item of cost which is often ignored in other systems. It is nonetheless important, since many distributive

firms employ trainees for promotion into management, and bear the cost in their central training function.

Most of the above costs are of a macro or 'cost-effectiveness' type, although some of them can no doubt be allocated to particular training programmes in certain cases. Other expenditure on training is at a more specific, micro or 'cost benefit' level, and this must now be taken into account. The first item here is:

- (9) *Short-Term Participants:*
- a) salaries and wages
  - b) national insurance, graduated pensions, etc.



- c) 'perks'
- d) pension scheme

In some studies of training costs it would appear that this is the only significant one considered. It is certainly important, but it would be wrong to consider it on its own.

- (10) *Instructors 'Hired' from Other Departments:*
- a) salaries and wages
  - b) national insurance, graduated pensions, etc.
  - c) 'perks'
  - d) pension scheme

It is not evident that this expense is considered in many costing systems, or that firms often concern themselves with the value of instructors whom they transfer from their normal jobs to conduct training. However, if the total cost of training is to be assessed, this is a necessary consideration, as otherwise training would appear cheaper in these



A NUMBER of schemes have been proposed for the purpose of costing the training function of an organisation<sup>1</sup>. By and large, they attempt to generalise a procedure for all industries and economic activity. This has its benefits in terms of breadth of application; but it also has its shortcomings, as peculiar features that might characterise an industry such as distribution are not taken into account. In addition, many of them tend to view the costing as a simple accounting procedure somewhat distinct from consideration of the results of the training function, and thus of training as a budgeted investment.

A requirement of a costing system is that it will enable the management of an organisation to bring under one head all the costs that are to be budgeted over the long term, and that it establishes the relationship of these to the short term costs of training, the costs of individual courses and programmes. Consistency is also an important virtue here, if any attempt is to be made at comparing different exercises in training. There is a need to distinguish between macro and micro approaches to costs, because of the different significance taken on by various factors when viewed from these two perspectives. For example, the short term cost of employing an individual to participate in a programme can generally be said to be composed of his pay during the training period, plus perhaps the employer's contribution to his National Insurance, and other minor costs. In the long term, however, other items such as holiday and sick pay, subsidised canteen meals, payments in kind and so on, need to be considered.

This difference between macro and micro can be demonstrated in other aspects of a system also. Wentling and Lawson<sup>2</sup> distinguish between the analysis of cost benefit and of cost effectiveness, the former referring to a single training programme, while the latter deals with a number of programmes. This leads them into considering general schemes for evaluating the activities of a training department. The two approaches do need to be accommodated into one. Some trainees undergo long-term training, and their long-term employment costs will need to be considered; to provide a system that is consistent for all training, therefore, the same aspects of

short-term training, and of individual training programmes, will have to be taken into account.

#### Need to define terms

Since it is clear that the term 'training' refers to a complex range of activities, it is equally evident that many of the terms to be used in a costing system must be defined. At very least, the context in which the system is set must be described.

Thus it is assumed in this article that we are dealing with a firm containing a *training function* (which may or may not be set up as an actual department), which serves, by administration, advice and tuition, a number of *client departments*. The latter send *participants* for training by the firm's *instructors*, who may be in the participant's own or another department or in the training function (and they may have other duties as well); such training is called *internal*. The departments also send participants on courses run outside the firm, known as *external*. The period of time spent by a participant in training (including travelling, etc.) for which he is paid, and during which he would otherwise be active in his job, is his time *off the job* (even if the training takes place physically in the work environment).

The staff of the training function are divided into *administrative staff* (who do not conduct teaching in courses), *instructional staff* (who do), and *long-term trainees* (who are undergoing a long course of personal development, usually aimed at quick promotion). It is possible that the same individual performs more than one of these roles (particularly administrative and instructional), just as it is possible that an individual in the training function may have duties elsewhere in addition; some kind of split in costs is clearly necessary in such cases.

The reader should bear the above in mind when considering the use of the italicised words and phrases in this article.

According to established texts on distributive accounting<sup>3</sup>, training expenses are classified under two or three different heads. In particular, 'occupancy expenses' include the costs involved in the rent, depreciation and upkeep of buildings, including the training rooms and offices, and in providing power and utilities for these

buildings. Under the heading of 'administration expenses' are salaries and wages, the provision of equipment and materials, and a number of other items; it is a matter of local accounting convention whether the training function is included under this head, or whether a separate heading of 'training expenses' is set up to cover the people fully employed here.

#### Grouping of data

Whatever the arguments for and against separating expenses in this manner, if the total cost of any function, such as training, is to be isolated, data will have to be extracted from various sources and grouped together. The major classification of these costs is likely to be roughly as follows (although there will inevitably be differences from one organisation to another); each expense group will be described in turn.

##### (1) *Buildings and Land:*

- a) depreciation
- b) rent
- c) rates, water, insurance, etc.
- d) electricity, gas, oil, etc.
- e) maintenance

Depreciation is included with other building costs, despite the preference of some to group it separately; it is one of the costs of housing the training function. Depreciation should normally be calculated according to the established accounting procedure of the organisation. In some cases, too, resources will be shared between the training function and other departments. When this occurs, costs should clearly be shared; a proportion may have to be derived from an estimate of relative usage, perhaps on a square-footage basis, or sometimes by a mere guess.

##### (2) *Capital Equipment:*

- a) depreciation of training equipment (e.g., fork-lift trucks, projectors, cash registers)
- b) depreciation of administrative equipment (e.g., typewriters, photocopiers)
- c) maintenance of training equipment
- d) maintenance of administrative equipment

The same principles apply to this group as to buildings and land as far as depreciation and sharing between departments are concerned, although the proportions shared are likely to depend on the length of time for



*training*

Stephen J S Hart  
*Research Officer, Distributive  
Industry Training Board*

# How to cost distributive training

Relatively little attempt has so far been made to assess the cost of training in retail organisations. But it is essential that an attempt be made to assess

training as an investment, and to control the function so that the best possible return is obtained from it. Stephen Hart has devised a scheme

which enables a complete statement of training costs to be made and which permits real comparisons between training in different departments.





## DETERMINING THE PRIORITIES OF TRAINING

STEPHEN J S HART

One of the major problems that any training manager has to face is deciding which training projects to carry out - or frequently, which projects not to carry out. The manager's situation is seldom a simple one, since he has to balance the availability of his resources - in particular, his staff - against the demands for training that may arise, often foreseen but also unexpectedly, from all levels and departments of an organisation. Sometimes, indeed, the instruction is to redirect resources from whatever is in progress (and how often does the originator of the instruction know what is in progress?) to another training priority with overriding urgency.

The problem is thus at least a threefold one. Training management must ask:

- which projects should we carry out, and which should we postpone?
- how many staff should we have?
- how should we cope with sudden emergencies?

In a single phrase, the problem is one of determining priorities of training. It is generally accepted that training should be planned, and a number of I.T.B.s stress this. It is questionable, though, how much forethought is given to planning training activities for the months ahead in a way that will deal with these three questions.

This article describes a method for determining training priorities, and making informed decisions about which programmes are most worthwhile. To some extent it has been based on a scheme proposed by Cheek (1973) for assessing the cost-effectiveness of



the personnel function in the U.S.A. However, any reader who consults Cheek's article will probably notice more dissimilarity than likeness, not only because he is dealing, in personnel, with a wider field than training, but also because of the emphasis on cost/benefits in his scheme, and additionally because it does not seem to concern itself greatly with the quantity of resources available, except in what it determines to be 'marginal' programmes. Although 'cost effectiveness' might seem appropriate as the essential criterion for choosing between training projects, it is well known that not all benefits of training are measurable, and that some are probably not known at all; in certain cases the same applies to some costs. The training director of the T.S.A., putting stress also on learning objectives and other issues, commented recently that 'cost-benefit approaches are not the only factors in choosing priorities for expenditure' (Johnson, 1976). Cheek accepts this, but cost effectiveness is still the overriding aim in his system. The present scheme is based on a number of criteria, most of which do not involve estimating costs or benefits. This makes sense because, in addition to determining how cost effective any successful training programme will be, it is necessary to assess the probability of its success; and this probability depends on a number of factors.

It is assumed that the activities being considered are constituted as discrete programmes, or else can be broken down into such. Although this assumption may not always be realistic, programmes generally interlink where it makes no sense to carry out some without the others - in which case the whole structure should be considered as one programme. However, real scrutiny should be given to such a case, as experience suggests there is often a possibility of breaking the activities into smaller projects.

Once this separation of programmes has been achieved, the objectives of each are considered, with a view to developing, at least in outline, the practical details involved. An estimate will need to be made of the time that staff will have to devote to developing the programme, and to carrying out the actual training (if that is involved). Such estimation is always approximate, and is best guided by experience; but a well-considered analysis of what is involved will improve its accuracy.

Each programme can then be considered against the criteria which will be used to determine relative priorities. These criteria are:

- 1) The legal requirements for carrying it out;
- 2) The organisational needs or problems involved;
- 3) The availability of the skills needed;
- 4) The origin of the request for training;
- 5) The cost/benefits of carrying it out.

Weightings on the basis of these considerations have been applied in two companies where the system has been tested, and are described in their final form after modifications found necessary were made; but it cannot be overstressed that the criteria, and their weightings in the points scheme, would need to be determined in the light of local circumstances in each organisation. Further detail can be given about the five criteria.

1) Legal Requirements Most organisations, at some time or another, find that they are obliged to carry out training, either because of a longstanding legal obligation (e.g., dangerous machinery), or because of new legislation (e.g., Health and Safety at Work Act, equal opportunities), or because new systems are being introduced following legal changes (decimalisation, V.A.T., metrication). Such instances are generally distinguishable from other types of training, in that it makes no sense (either financially or morally) to consider not carrying out the programme. In some cases, the question might arise of how much training should be given; but in such cases, we are properly speaking of a number of programmes, the most fundamental of which is likely to be a legal necessity, while the others are optional (and should be treated as such).

However, some programmes may have only a partial legal element. This type of project arises if training is needed for a number of reasons of which one is legal - quality control training, with a health and safety element, is an instance that has occurred in this context; or if legislation is anticipated, such as after an official report; or if ignorance of the law (on employment or industrial relations, for example) could cause problems.

Following Cheek, this system gives overriding importance to the legal criterion. If a programme is considered a total legal requirement, 7 points are allocated to it; and if a partial requirement, 3 points.



2) Organisational Needs and Problems It is one thing to estimate the results of successfully implementing a training programme; it is another to determine the likelihood of a successful implementation in a particular organisation. The attitudes and general working environment of employees play a substantial part in producing the practical results that any training effort is intended to achieve. If the training manager feels that, in addition to the programme itself, a great deal of effort will need to be put into changing management's outlook or even the structure of the organisation; then he must reckon that he has many problems to face in this instance, when he compares different programmes.

It will often be a question of the amount of 'selling' that will be needed before the implications of a programme are accepted. In cases where training has been prescribed by the organisation to bring about a change in attitudes, the same question may still apply, although then there may well be one programme which minimizes these problems by approaching the attitude change where least selling is necessary - perhaps at top management, if the original instructions have come from that quarter.

In certain other cases, the introduction of, say, a new system produces a special need in the organisation for training. There would, in fact, be organisational problems if the training were not carried out. In such an event, there is a special need for training.

If the special organisational need exists, 2 points are awarded; if there are problems anticipated in training, no points; and if there is merely a normal need for training, without evident problems, 1 point.

3) Skills Needed Another factor which must operate before the best programme will be successful is that the skill must be present to communicate accurately with the trainee. These skills may be both those of general instruction and of specific techniques, and relate to the overall 'state of the art' in the field to be taught. If instructors will need more practice before perfecting their performance, this will lead to a decision that the desired skills are not fully available (this may also have been taken into consideration when the cost of the programmes was estimated). Similarly,

equipment or systems may be novel, and may thus require novel skills.

So long as the skills needed are available, 1 point is allocated; otherwise, no points are given.

4) Origin of Request In practice, some programmes may have to be given a slightly greater weighting if the request to train derives from management at board level. While one of the aims of this system is to prevent demands from senior levels overriding other training at short notice, to achieve this some regard must be paid to the status of those requesting a particular project.

If the request for training comes from board level, 1 point is allocated.

5) Cost/Benefits of Operation This involves an estimate of all the financial outlays involved in the training, including such elements as the cost of the trainees' time, the cost of training staff time, the cost of instructors 'borrowed' from other departments, expenses, course fees, consultants' fees, materials, equipment and fuel. It may, in addition, be felt necessary to estimate a share of the depreciation on buildings and capital equipment, of property overheads, training board levy, and so on - in other words, the total accounting costs. However, this detail will depend on both the detail in the organisation's accounting procedures, and whether these costs are considered marginal.

Once calculated, these costs can be entered on record cards (a format for these is given in figure 1). On the reverse of each card, a broad estimate of the benefits from each project is made. This is done by considering both the number of likely participants in the programme, and the general magnitude of the benefits that might be expected from training the average participant. These two factors multiplied together give a figure which represents an assessment of likely benefits. Thus a particular project might involve training 20 employees, and the likely average benefit might be loosely estimated at about £500 (as distinct from £50 or £5000). In this case, the total benefit would be estimated at  $£500 \times 20 = £10,000$ . There will doubtless be certain cases where the £500 would be no more than a 'guesstimate'; but with many projects, reasonable consideration of the objectives of training will lead management to at least a general idea of the magnitude of the bene-



PROGRAMME

DURATION

PARTICIPANTS

Numbers

AVE. PAY

TOTAL PAY

TUTORS

COST OF TUTORS

TIME NEEDED FOR PLANNING & DESIGN

LOCATION

EXPENSES ENTAILED

TRAINING REQUESTED by

TOTAL COST

POINTS

LEGAL REQUIREMENTS

REQUEST FROM BOARD?

ORGANIZATIONAL PROBLEMS

SKILLS NEEDED

RESULTS EXPECTED

Comparison of results with costs

TOTAL POINTS

FIGURE 1: PRO FORMA OF RECORD CARD FOR DETAILS OF TRAINING PROGRAMMES (SIDE 1, ABOVE; SIDE 2, BELOW)

fits to be expected. One is aware that objectives are not always properly considered, but perhaps this is a further reason for recommending that they should be.

Next, the programmes are ranked according to cost, and divided into three groups, as equal in size as possible, to indicate which are high, medium and low cost (groups A, B, and C). Then, a similar procedure is followed for benefits, although in this case the ranked programmes are divided into four groups, to indicate high, moderately high, moderately low and low benefit respectively (groups A, B, C and D). The reason for these numbers of groups is again largely based on pragmatism; the arrangement works, and does so by accentuating the differences between costs and benefits in extreme cases. A greater number of combinations of cost/benefits are available than if, say, each was divided into only three groups.

The comparison between the two groups of which each project is a member is then made, according to three rules. First, if the benefit letter is higher than the cost letter (AB, AC or BC), 2 points are awarded. Second, if the benefit letter is the same as the cost letter or one lower (AA, BA, BB, CB, CC or DC), 1 point is awarded. Third, if the benefit letter is two or three lower than the cost letter (CA, DA or DB), minus two (-2) points are awarded. By this method, those projects from which no significant benefits can be expected to justify the cost are given a particularly low weighting.

Perhaps some further words of reassurance should be said on this subject of costs and benefits. Many people concerned with training express despair at the thought of measuring them, and I would certainly never pretend it is easy. However, a number of these reservations can at least be mitigated if the issue is approached systematically.

In the first place, most of the costs of training can be estimated to a reasonable degree of accuracy, if the company is operating any sort of budgetary and costing system worthy of the name. A number of the expense heads involved have been mentioned, and it should not be difficult to identify these within one established system. It is true that some firms do not isolate costs to a training cost centre, but nowadays the need for control over training seems to indicate that there is a greater demand that they should.



Next, there are the benefits. These are, as a rule, harder to measure than the costs, but is it really true to say that the task of producing a general estimate (for that is all that is needed) is an impossible one? In some cases - particularly where repetitive jobs are being trained - it may be a definite aim of the project to improve rates of output, or to reduce errors, and at least an idea of the value of these should be in the realms of possibility. Often a stipulated period of time, of perhaps a few months, may be taken as the base for these benefits; so that then a conservative estimate is made, in the knowledge that the true benefits are likely, if the training is successful, to be greater still.

Where the field of training is more involved with 'social skills' - for example, salesmanship or management - estimating likely benefits is doubtless more difficult. Yet I wonder how often this is because objectives have not been fully thought out. This is not the place to enter the great debate about whether or not training should have firm objectives laid down from the start, or whether or not they should be expressed in behavioural terms. But surely when training is being planned there should be at least some idea of what gains are expected from it? As long as this idea does exist, the task is then to express these gains in terms of money.

Sometimes, it is hoped that sales will increase, output will improve, staff turnover will fall, accidents will decrease, or some other benefit will occur which can be expressed financially. The profit from extra sales or production, the costs of recruitment and accidents - these are all expenses of which at least the general magnitude should be known, and the same is true (with items such as accidents) of the probability of occurrence. For it is important to remember that, in this system of priorities, it is only the general magnitude that will be taken into account, because the training projects are grouped into broad classes according to their estimated costs and benefits before their points allocation is made. A second point to be stressed is that estimate is an important, operative term here. These costs and benefits are not actual ones; the training has not yet taken place. All that is needed is an idea for the future of the anticipated financial implications of a project. Thirdly, any estimated benefits are multiplied by the number of participants who will be involved in the training, so

that the accuracy of these estimates will play an even smaller part in determining the points rating.

No doubt there will still be a residue of programmes which resolutely refuse to have financial benefits attached to them. Long-term management development courses are a possible example. But in these cases is it too much to consider what sort of results might accrue over the next years, at least to the nearest power of ten? In other words, is the advantage to the firm likely to be £100, £1000, £10000 or even more? Comparison with the prospective earnings of the participants over a given period (if necessary, adjusted according to turnover rates) might well give some conception of which of these is most likely.

The main point is: do not be put off by the idea of including cost/benefits in the scheme; that is why they have now been discussed at disproportionate length. Cost/benefits are no more than one item among a number, and they are often more easily estimated than training management are accustomed to think. In many cases, having to look at this aspect may provide a very good discipline for trainers, ensuring that they consider seriously what it is they are trying to achieve, and what resources are needed to achieve it.

Anyone involved in training may enquire why these particular criteria are the ones used, and why the points used to weight them have the values chosen. It must be repeated that these are the criteria and values which, after discussion with training management, have been found to reflect the problems in particular companies, and to provide a sensible list of priorities. Such a list (see table 1) can be constructed by totalling the points awarded to each project, and then grouping projects according to number of points. Where points are equal, days of training function time are taken into account; where these are equal, estimated cost and then estimated benefit are considered.

The ranked order should not be taken to imply that the training programmes have to be carried out strictly in the sequence of priority, but rather that, over a period of time, all training will be carried out up to a determined point. This point can be established by various different approaches. If staff resources



PROGRAMME	POINTS	DAYS	APPROX. COST (£)	APPROX. RESULT (£)
Metrication	11	1	335	6000
Abrasive Wheels	10	*	85	150
Eye Regulations	10	*	210	2000
Equal Opportunities Policy	10	3	525	14000
Safety Committees	9	*	1670	4000
Supervisors	7	12	1850	24000
Export Regulations	6	*	95	390
Goods Vehicle Legislation	6	*	105	600
Safety Committee Chairmen	6	*	860	2000
Quality Control	6	1	1905	15000
Engineering Refresher	6	2	420	5600
Production Design	6	40	11050	20000
Welding	4	*	385	800
Social Skills for Technical Management	4	*	1760	7500
Management Refresher	4	7	2155	16000
Senior Management	4	9	3980	24000
Employment Legislation & Practice	4	10	2670	3500
Sales Refresher	4	11	23080	45000
Shop Floor Paperwork	4	12	1200	16000
New Products	4	80	10170	120000
Sales Induction	4	115	18980	200000
Dictating Equipment	3	*	70	350
Work Study	3	*	90	130
Parts Identification	3	*	115	2400
PAYE/Nat. Insurance/Pensions	3	*	190	300
Drivers' Check Testing	3	*	670	6000
Coaching Skills	3	*	770	4000
Recruitment	3	*	2090	50000
Field Sales Management	3	*	2870	24000
FrenchMarket - Design	3	5	3000	16000
Regional Sales Meetings	3	6	170	4800
Occasional Sales Refresher	3	7	1055	5000
Selection Interviewing	3	8	2980	24000
Customers	3	12	2515	9600
Trainee Development	3	13	750	12000
Shop Floor Supervisors (excl. Bristol)	3	18	1250	10400
Financial Appreciation	3	18	2280	8000
Shop Floor Supervisors (Bristol)	3	20	540	1600
Credit Control	2	*	250	3000
H.G.V.	2	*	2480	8000
Shopfloor Supervisors (Senior)	2	*	8500	40000
Appraisal Interviewing	2	4	950	10000
Technical & Admin.	2	7	360	4000
Product Knowledge (Customers)	0	*	980	900
Welding Appreciation	0	*	3725	4880
Uses of Data Processing	0	4	1220	1200

\* = less than 1

TABLE 1: REVISED FIRST LIST OF PRIORITIES OF TRAINING IN FIRM A

are likely to be restricted, it would be concluded that training can be done until the number of man-days considered available is exhausted. Thus if each member of staff is available (after holidays, administrative work, etc., have been deducted) for 150 days, a staff of two could deal with up to 300 man-days' work; this point of 300 days could be read off by totalling down the 'man-days' column. On the other hand, the number of staff needed might be determined by the demand of the total training activity. This is more dangerous, because it does not take account of whether each programme is worthwhile in itself, and whether some of the lowest priorities would be best abandoned altogether.

When, subsequently, the need arises for other training programmes, these can, with little difficulty, be interposed into the list of priorities. They are rated according to the points system, and, in the case of the cost/benefit comparison, are allocated the letters of the groups within which their estimated costs and benefits fall. Indeed, the same must be true for the original projects, as they progress. Some will be omitted because they are complete, while others may have their points changed as, for instance, planning costs are sunk and the marginal cost of carrying them out decreases. After a few months, it may well be worthwhile starting the whole procedure again, to ensure that recent scrutiny has taken place of every training programme.

If demands now arise for extra training which is of immediate urgency, it will be possible to assess this against other projects, to determine how pressing a priority it really is. In addition, the training function will be able to point out what training may have to be sacrificed, in order to divert resources to the emergency. By doing this, senior management who make such requests can be made to carry their share of the responsibility for them. This goes at least part of the way to dealing with one of the main problems in the planning of training.

Some trainers might wish to go further, and seek a method of determining the equilibrium point which makes the best compromise between the restraints on resources and the demands for training. To do this, the system would have to be developed in a way which would depend rather more on the accuracy of the estimates of costs and benefits. As it is clear that these are far from exact, it does not seem likely that such a development is a practical poss-



ibility at present. Its feasibility may, however, be written up in the future.

#### REFERENCES

- L M Cheek, 'Cost Effectiveness Comes to the Personnel Function', in Harvard Business Review, May/June 1973, pp. 96-105
- R Johnson, 'Improving the Quality of Training', in Coombe Lodge Report, 9.6.194-98 (1976)