MANAGEMENT ACCOUNTING PRACTICES IN LARGE IRISH MANUFACTURING FIRMS

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Introduction

The purpose of this paper is to report the findings of a survey which collected information on management accounting practices used by Irish manufacturing companies. The results may be of interest to academics for three reasons. First, since we teach these techniques to our students, we should know something about the extent to which they are actually used in practice; second, the results, however tentative, should provide suggestions for continued research. The results can also be compared with previous surveys to identify trends in current management accounting practices, both in a national and international context. The results of this study should also be of relevance to a broader audience - specifically companies considering a change in their cost/ management accounting systems and practices. After all, awareness is the first step in effective change.

This paper is divided into three sections. The first section details the research methodology used in this study. The second section presents the results which includes a brief comparison between the findings of this study and that of a prior survey carried out in December 1991 (Clarke, 1992). The concluding section of the paper provides a discussion of the findings and suggests areas for future research.

Research Methodology

Data on the management accounting systems used by Irish manufacturing firms were obtained in Summer 1995 by mailing a questionnaire to the leading manufacturing companies. The companies were chosen from the Business and Finance (1995) listing of Ireland's top 1,000 (manufacturing and non-manufacturing) companies. This listing ranks companies on the basis of annual turnover and both quoted and non-quoted companies are included in this study.

It was decided not to target manufacturing companies outside this list since most, if not all, are likely to have annual turnover figures of less than £5 million. It is plausible to argue that larger companies are more likely to have more comprehensive management accounting systems than smaller companies because of their greater resources and

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management needs for such systems. Therefore, because of the sample selection process, it would not be appropriate to make generalisations about management accounting systems in manufacturing companies in Ireland. It was decided not to include financial, service, retail or exploration companies because manufacturing firms have different cost structures and face different cost management issues than non-manufacturing companies.

Through an arbitrary but logical classification process, the following three broad subject areas were investigated viz. (i) product costing systems, (ii) decision making techniques and (iii) standard costing systems. In addition, companies were requested to disclose some background data. The full questionnaire contained approximately forty questions on cost/management accounting practices and techniques.

The postal questionnaire approach to the collection of data was chosen since mail surveys are relatively low in cost and can reach a widely dispersed sample simultaneously without the attendant problems of interviewer access (Kanuk and Berenson, 1975). Indeed, it is plausible to suggest that mail surveys tend to be more valid than interviews because they permit leisurely and thoughtful replies and subjects are less pressurised to respond than in face to face interviews.

The questionnaire was addressed to the Chief Management Accountant in each company with an appropriate covering letter. Respondents were guaranteed complete confidentiality regarding the contents of their questionnaire and were offered a copy of the final paper and this was requested by over eighty percent the respondents. A follow-up letter was sent to the non-respondents of the initial mailing. A total of 221 responses were received, equivalent to a 43% percent response rate, but only 204 are included in the analysis here, as indicated in table 1.

Table 1: Overall Sample Size and Response Rate

Original Sample size	511	
Usable responses	204	(40%)
Policy not to respond	7	
Unable to respond	6	
Late /inconsistent responses	4	
Overall responses	221	(43%)

This is a satisfactory response rate and suggests a high level of interest in this study and that respondents took the exercise seriously. Indeed nearly 40% of respondents indicated their willingness to participate in future face to face interviews with the author.

However, before presenting and discussing the findings of this study, it is appropriate to address the potential problem of non-response bias. As Wallace and

Mellor (1988, p.131) note "inferences from responses to mail questionnaires are capable of being substantially biased by the presence of a large proportion of those in the survey sample who fail to return the questionnaire". A test for non-response bias was conducted by comparing the first and second wave respondents to the survey. This was based on Oppenheim (1966) who found that late survey respondents are similar to non-respondents. No evidence was found of any non-response bias in this study.

Research Findings

The research finding are presented here under five headings viz. (i) company background information, (ii) product costing systems; (iii) decision making techniques and information; (iv) standard costing systems and (v) comparisons with an earlier study.

(i) Company background information

The characteristics of responding companies in terms of type of ownership, industry classification, annual turnover and number of products produced are listed in panels A, B, C and D of appendix 1. Panel A reports firm ownership. Overall 73 percent of responding firms are subsidiaries of multi-national firms. The dependence of Ireland's economy on multinational companies has already been highlighted by Foley and McAleese (1991). Panel B shows that almost 40 percent of the responding firms are in the drugs/pharmaceutical business or the food, drink and tobacco industries classification. Annual turnover for the firms, shown in Panel C, range from less than £3 million to over £100 million with 48% percent within the range £ 10 - 50 million. The modal annual turnover was within the range £20 - £50 million. Respondents were also asked to describe their product line. The number of products in the companies' portfolios has important implications for product costing and managerial decision making. Panel D shows that over half of the respondents indicated that they produced a considerable number of similar products (more than 5) and a small percentage (7%) producing only a single product. This highlights the naivety of educators in using only single product companies for teaching purposes. Clearly, the majority of companies are multi-product companies and this reality should be reflected in our teaching material dealing with such topics as CVP analysis, pricing and control systems.

(ii) Product costing systems

Cost structure is an important factor affecting the appropriateness of costing systems. For example, it may be argued that an ABC system is more suited to firms with a high proportion of overheads in their cost structure. Respondents were also asked to give a breakdown of TOTAL costs between direct materials, direct labour, production and non-production overheads. Because such information may be extremely confidential respondents were asked to indicate their cost structure according to selected ranges rather than point estimates and their responses are contained in table 2.

Table 2: Approximate Cost Structure of Responding Companies

	%
Direct labour	15%
Direct materials	50%
Production overhead	18%
Non-production overhead	17%
	100%

The reported cost structure varies between companies. For the majority of companies, however, direct materials represent the largest cost element. This is not surprising since this study deals expressly with manufacturing firms. For example, 82% of respondents reported direct materials to be in excess of twenty-five percent of total cost. However, 83% of responding companies reported that direct labour is less than twenty-five percent of total cost. Using average figures, direct labour is the smallest cost element, averaging 15% of total costs. Non-production overhead costs are, on average, more important than direct labour in the overall cost structure. Yet these are the costs which are most difficult to trace to products and generally do not receive the same degree of scrutiny as production overheads in a traditional cost accounting system. These findings re-emphasise the need to carefully manage both direct material and overhead costs.

Cost information can be used for a variety of purposes, of which product costing is but one. Porter (1985), for example, argues that two major strategies for generating competitive advantage are "cost leadership" and "product differentiation". However, such strategies require that firms be able to distinguish the relative profit contribution from all individual products. Thus, the implications of inaccurate cost data are potentially significant in the context of strategy formulation. According to table 3, the majority of respondents (84%) considered that their current accounting system provided very/fairly accurate product cost information whereas only a small minority (11%) perceived their current system as slightly inaccurate. It is logical to conclude that this perception or lack of suspicion limits the possible search for alternative product costing systems. However, it is important to distinguish between computational accuracy and conceptual integrity (Emore and Ness, 1991). If the accounting system distorts product costs, there is no internal mechanism to detect this. No other information exists in the company on product costs other than that found in the accounting system. Consequently decisions concerning selling price, product mix and possible outsourcing may be made on the basis of information that is potentially suspect.

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The issue of overhead absorption is arguably the most significant problem in the field of product cost accounting. It will be recalled that an overhead absorption rate (OHAR) is computed as follows for an accounting period:

$$\text{OHAR} = \frac{\text{Anticipated overhead to be incurred}}{\text{Cost driver activity level}}$$

For the purposes of this study, the main issue associated with overhead recovery (absorption) is the choice of cost driver or activity base e.g. direct labour hours.

Choice of cost driver

The reported choice of cost driver for absorbing production overheads (which includes multiple responses) is contained in table 4.

Table 4: Production Overhead Absorption Bases

	Usage*	% of firms*
Direct labour hours	79	39%
Direct labour cost	27	13%
Machine hours	46	22%
Material costs	14	7%
Units produced	58	28%
Other/not absorbed	42	22%

* = multiple responses

Direct labour is the predominant basis for the attachment of production overhead costs to products (hours being used by 39% and cost by 13%), even though labour cost, in many companies, is a small cost element. There was no significant correlation between the use of labour/non-labour based measures of activity and the size of labour cost as a percentage of total cost.

An enormous amount of publicity has been given to the criticisms of using direct labour-based overhead rates. For example, it has been argued that as production overhead increases to reflect the costs associated with increased complexity, diversity and advanced manufacturing technologies, direct labour becomes increasingly inappropriate as the sole basis for attaching some production overhead costs to products, especially costs that relate to "internal transactions" rather than volume of output (Johnson and Kaplan, 1987).

The low frequency of the use of material costs as an absorption base (7%) implies that costs such as purchasing, receipt and inspection and storage of raw materials are likely to be absorbed by products based on their direct labour content which is hard to justify on the criterion of cause/effect relationship. Indeed, Emore and Ness (1991) argue that treating material-related costs as part of general production overhead can result in outsourcing decisions that appear more attractive than they actually are. Alternative bases, such as "units produced" is used by 28% of companies but his approach can only be justified where there are a small number of similar products in the company's product range.

In addition to asking WHAT bases were used for overhead absorption, respondents were asked WHY the particular base was selected and their responses are presented in table 5.

Table 5: Reasons for use of Cost Driver (Activity Base)

	No.*	% of firms*
Logical association	102	50%
Simplicity and clerical convenience	60	29%
Strong statistical association	25	12%
Other/ Not absorbed	26	13%

* multiple responses

Regarding the choice of cost driver for absorbing overheads, the emphasis is on logical association (50%), together with simplicity and clerical convenience (29%). These replies suggest that most cost/management accountants are not performing rigorous analyses of overhead costs for determining product costs. They look for a logical relationship but do not test this relationship statistically and possibly do not change it in subsequent accounting periods. In other words, the absorption methods that management accountants use in manufacturing companies in Ireland merely assign rather than explain overhead costs (Miller and Vollmann, 1985). Consequently, product cost distortion may be taking place unknown to the accountant and users of accounting information.

(iii) Decision making techniques and information

This section reports the findings relating to the use of certain techniques and information in managerial decision making. Specifically, the areas investigated concern cost behaviour and estimation, decision making techniques, selling price and make or buy decisions.

Cost behaviour and estimation

Managerial decision making relies heavily on the understanding of how individual cost elements behave over a range of potential activity. If this relationship is not correctly established, biased decisions are likely to be made, and subsequent budgets and standards will probably be inaccurate. It is usually assumed that direct materials are best described as a variable cost but there is less agreement on the correct classification of direct labour costs. Approximately two - thirds (65%) of respondents considered direct labour cost to be variable with respect to volume. Respondents were asked about their perceptions of the accuracy with which production overhead costs were segregated between fixed and variable with respect to volume /output. The responses are listed in table 6.

Table 6: Classification of Fixed and Variable Overheads

	No.	%
Very accurately	32	15%
Fairly accurately	88	43%
Approximately	42	21%
Not at all	42	21%
	204	100%

Nearly two-thirds of respondents (58%) perceived that they segregated production overhead very or fairly accurately between fixed or variable with respect to volume/ output. Surprisingly, one-fifth of firms (21%) did not segregate fixed and variable costs even though management accounting experts have stressed the importance of such a classification. However, a possible explanation is that the relevant industry had products with a short life cycle, which means that the usefulness of knowing the fixed/ variable cost classification was limited.

A number of techniques are available to segregate fixed and variable costs. From table 7, it can be observed that the dominant majority of respondents (78%) rely on judgement and account classification rather that statistical techniques such as regression analysis in segregating fixed and variable costs. Remarkably, the use of the statistical technique of regression analysis was reported as being used by only one percent (1%) of respondents. This limited use of regression analysis by Ireland's top manufacturing

companies is interesting. This method has been advocated by management accounting experts for many years since it automatically provides supplementary statistics to test the underlying linearity assumption and establish confidence intervals around cost estimates.

Table 7: Cost Estimation Techniques

	No.*	%*
Judgement and account classification	159	78%
Scatter diagram	1	1%
High - low points method	2	2%
Regression analysis	1	1%
No response	45	22%

* multiple responses

Decision making techniques

Numerous quantitative techniques have been developed which have potential for facilitating the managerial decision making process. These techniques include, but are not limited to, the following: CVP analysis, linear programming, learning curve, Net Present Value, probability and sensitivity analysis. The techniques used are presented in table 8.

Table 8: Decision Making Techniques

	No.*	%*
CVP Analysis	167	82%
Net Present Value (NPV)	106	52%
Probability and sensitivity analysis	60	29%
Learning curve	25	12%
Linear programming	4	2%

* multiple responses

Cost - volume - profit (CVP) analysis was reported as being used by over eighty percent (82%) of all respondents. NPV was used by over one-half of respondents - a finding broadly comparable to an earlier Irish study (Green and McIkenny, 1991). Probability/ sensitivity analysis (29%) were used by approximately one-quarter of respondents. Other techniques, such as the learning curve (12%) and linear programming (2%) were used very rarely. Even after adjusting for the number of single product firms (14) in the sample who would not use linear programming in product mix decisions, its use is very low indeed.

Selling price decisions

Some thirty years ago Buskirk wrote "probably no one single marketing tool is so critical from both an economic and social standpoint as price" (Buskirk, 1961 p. 385). The selling price decision is related to the sales forecast. Respondents were asked to assess the importance of specified factors (on a four point Likert type scale) in forecasting sales volume. The responses are presented in table 9 in terms of mean values.

Table 9: Forecasting Future Sales Volume

	Mean
Judgement of marketing staff	3.31
Last year's sales	2.99
General economic conditions	2.70
Information about competitors	2.67
Statistical techniques	1.63

(Scale: 1 = not important ... 4 = very important).

Thus, the judgement of marketing staff is the (relatively) most important consideration (of those specified) in making future sales forecast. The least important factor was the use of statistical techniques which was rated, on average, as less than fairly important. This is surprising since computer software is widely and cheaply available to help in the forecasting process. (However, it may be that unknown to the management accountant the marketing personnel use such computer technology when advising on and developing sales forecasts).

According to Brenner (1982) the selling price decision is made after consideration of a number of factors. Respondents were asked to assess the importance of specified factors (on a four point Likert type scale) in making normal selling price decisions. The responses are presented in table 10 in terms of mean values.

Table 10: Important Factors in Normal Selling Price Decisions

	Mean
Level of competitors' prices	3.34
Full cost plus profit margin	3.16
Judgement of marketing staff	2.76
Variable cost plus margin	2.44
Market share impact	2.41
Market research studies	2.00

(Scale: 1 = not important...4 = very important).

This exhibit clearly indicates the level of competitors' prices to be the most important factor for respondents in making normal selling price decisions. In some respects this is not a surprising conclusion since competition by its very nature tends to set an upper limit on pricing. Whenever a company desires to make any price move it must anticipate the action of competitors (Zober, 1964). Indeed, Simmonds (1981), in a pioneering article on strategic management accounting, highlighted the importance of reporting, inter alia, price levels and price trends among competitors. The finding in this study complements that of Keating (1991) who discovered that "market forces" were the most important determinant of selling price in 82% of companies in his sample. Also, full cost is more important than variable costing since presumably, in the long run all costs must be recovered if a profit is required. Of all the factors specified market research studies were the least important consideration.

Make or buy decisions

The final aspect of managerial decision making investigated was the various considerations involved in the "make or buy" decision. Since the survey was conducted exclusively with manufacturing companies, it is plausible to argue that many respondents could be faced with such "make or buy" decisions: that is, whether to manufacture their own parts and subassemblies or buy them from suppliers. Indeed, one critical factor in maintaining competitiveness in the harsh business environment of the 1990s is careful management of make or buy decisions (Gietzmann, 1995). Clearly cost/contribution considerations may be important in such a context. However, qualitative factors (or non-quantifiable factors) may be relevant. Sometimes the manufacturer of parts requires special know-how, or the desire to control the quality of parts often results in the decision to make them. These qualitative factors may dictate management's response to the make or buy decision. Consequently respondents were asked to indicate, along a four-point Likert type scale, the perceived importance of specified considerations in the "make or buy" decision. The responses are included in table 11 in terms of mean values.

Table 11: Factors Important in Make or Buy Decisions

	Mean
Cost/contribution	3.48
Quality considerations	3.27
Dependability of supply	3.12
Employee job security	2.39

(Scale: 1 = not important...4 = very important).

The above table indicates that the (relatively) most important concern in the "make or

buy" decision was "cost/contribution". This was followed by the issue of quality and dependability of supply. This emphasis on low price suggests that Irish manufacturing firms place emphasis on short-term savings, rather than on long-term strategy. However, non-financial measures are also important and this should allow students appreciate that while accounting measures are important inputs into the decision making process, other, less quantifiable factors are often a major concern in such decisions. However, the (relatively) least important consideration was "employee job security" and this may be an important reflection on the attitude of Irish management to their employees in general.

(iv) Standard costing systems

Cost standards are frequently cited as one of the most useful cost control procedures for making day to day operating decisions. The use of standard costing systems for either direct materials, direct labour or production overhead was reported by eighty-seven percent (87%) of respondents (N = 204). (Interestingly, one US survey found that eighty six percent of the top manufacturing companies had a standard costing system (Cornick et. al., 1988).

A major function of a standard costing system is to identify and highlight performances (both good and bad) that deviate from standard. Table 12 summarises the details of the standard cost systems used by sample companies together with the standard cost variances computed for direct materials, direct labour and production overhead.

Table 12: Standard Cost Usage and Variances Calculated

Direct Materials (84%) (N=171)		*Direct Labour* (69%) (N=140)		*Production Overhead* (59%) (N=122)	
Material price	94%	Labour rate	74%	Variable rate	43%
Material usage	81%	Labour efficiency	79%	Variable efficiency	34%
Material mix	22%	Labour mix	11%	Fixed price	42%
Material yield	37%	Labour yield	19%	Fixed volume	46%

A very high proportion of responding companies with a standard costing system use standard costs for direct materials (84%), direct labour (69%) and production overhead (59%). The relatively higher proportion of direct material cost variances computed is understandable considering that direct materials are on average, the dominant cost

element. Most companies compute price (rate) and usage (efficiency) variances for both direct labour and direct materials. Also, a significant number (52%) calculate a separate foreign exchange price variance for direct materials. This is probably because import price changes are largely determined by exchange rate developments (Central Bank, 1994). However, mix and yield variances for either direct materials or direct labour are much less frequently computed but the nature of the firm's production process will have a major influence on whether or not it is desirable or possible to compute such detailed variances. Variances in relation to fixed and variable production overheads were computed by less than half of respondents.

Management accounting textbooks argue that standard costs should be based on technical engineering studies and rigorous specifications. After all accurate measurement is indeed the foundation for control. The preferred method for setting standards is based on past performance (66%). Any type of standard is subject to criticism but using historical performance is perhaps the most likely standard to be invalid for controlling current performance. The base period could easily include abnormal factors which should not be reflected in the current standard. Also, production inefficiencies in prior accounting periods may be compounded. These factors are supposedly removed through the use of engineering studies or trial runs. However, the principal advantage of historical data is that the information is less costly to obtain. Sample runs under regulated conditions and engineering studies were less favoured methods in this study.

(v) Comparison with the 1991 Study.

This study both replicated and extended an earlier study conducted in December 1991 among Irish manufacturing firms (Clarke, 1992). Similar questions were asked in both studies although this study has extended the sample to over 500 companies compared with 320 companies in the earlier study. Therefore, this sample includes a higher proportion of small companies e.g. companies with an annual turnover of less than £10 million and strict comparisons with the earlier study may not be entirely valid. Nevertheless, comparisons are sometimes tempting and interesting. The following represents some of the main items of comparison between the two studies, with the data being summarised in Appendix 2.

Product costing systems:

Remarkably, both studies report the same percentage usage (52%) of direct labour (hours or cost) as the basis of assigning production overhead costs to products. The majority of respondents in both surveys selected this "cost driver" on the basis of logical association. A strong statistical relationship between overheads and the activity base was looked for in only about 10 percent of responding companies.

Decision making techniques and information:

Approximately, two-thirds of respondents to both surveys consider direct labour to be a variable cost with respect to volume. The dominant majority of respondents to both surveys rely on judgement and account classification as a method of segregating fixed and variable costs whereas the use of regression analysis is hardly reported at all. Also the dominant majority use CVP analysis as a decision making technique (as distinct from product costing), whereas linear programming is used by a small percentage of respondents. The reported decline in the use of linear programming in this sample could be attributed to the greater proportion of relatively small companies included here.

In setting selling price decisions, both surveys reveal that the level of competitors' prices is the most important factor. On the other hand, market research studies is the lowest ranked factor. There is one notable change in the ranking of factors relevant to the make or buy decision. Previously, "quality" was ranked as the most important factor but this is now replaced by "cost/contribution". This could reflect the fact that relatively smaller companies do not give prominence to the issue of quality. This perspective is rather unfortunate given the prediction of Deming that at the end of the century there will only be two types of business - those that practice TQM and those that are no longer in business (Deming, 1986).

Standard costing systems:

Standard costing systems are still used by a majority of responding firms although its reported usage has declined. This could be attributed to the relatively higher proportion of small companies included in this sample. However, it is interesting to note that O'Dea and Clarke (1994) detected some level of dissatisfaction with existing costing systems among the financial controllers which they interviewed. The preferred method for setting direct material standards is still based on past performance.

Summary and Conclusion

This paper reports the results of a survey of cost/management accounting practices used in Irish manufacturing firms. Given that very little is known about management accounting systems in Irish firms, there was a need to provide a broad overview of current practices.

However, there are a number of limitations that must be cited concerning this survey before conclusions can be drawn. Problems of question interpretation make postal surveys a less than perfect method of investigation since responses are based on perceptions and may not necessarily fairly reflect actual occurrences. This study is also limited in that the respondents were the preparers of accounting information. It is possible that a survey targeted at the users of management accounting information may reveal different perceptions.

Although the response rate was very satisfactory (overall 43%, with 40%

usable), it represents about ten per cent of Irish manufacturing firms. Generalisations cannot and are not intended to be made. This is because the non-sampled firms have a small annual turnover i.e. less than £5 million. Conversely, most (if not all) manufacturing firms in Ireland with large annual turnover, are included in this original sample.

This research outlines a general picture for large Irish manufacturing firms. For the majority of companies, direct materials are the largest, single element in the total cost structure of the firm, whereas direct labour average, approximately 15 percent. Labour-related absorption bases were the most popular being used by 40 percent of firms in this sample. Standard costing systems are used by the majority of respondents with the main emphasis being placed on direct materials (84%) and relatively less emphasis being placed on direct labour (69%) and production overheads (59%). Cost standards were set mainly with reference to historical results.

Future research could usefully incorporate interviews. Such interviews, following on Swenson (1995) would allow specific issues to be addressed. These interviews and/or field visits would provide the researcher with a deeper and more critical understanding of the role of management accountants and management accounting in firms. They would also provide an insight into the social dimensions of the firm and the current visibility and level of detail regarding overhead costs within the reporting system.

Where comparisons are valid between this study and the earlier 1991 survey, it is interesting to note that management accounting practices in Irish manufacturing companies do not appear to have changed over the past few years. It is also interesting to note that some significant gaps between theory and practice appear even if one does not necessarily expect all theory to be put in practice. For example, the use of quantitative techniques including linear programming, regression analysis and probability analysis is lacking in practice. Exploring the reasons for this phenomenon presents opportunities for management accounting research. It could either be that some of these techniques are not relevant to managers and have been confidently rejected or alternatively, that management accountants are not aware of their existence and/or potential. Dugdale (1994) suggests that it may be more relevant to find out what practitioners DO find important and why. It is possible that "manufacturing complexity", "automation" and "tax based incentives for manufacturing firms" may be important explanatory variables although there may be definitional problems associated with each term.

In the context of change, Emore and Ness (1991) argue for a "new breed" of cost manager who is capable of challenging the status quo. If the champions of meaningful cost management systems emerge from outside the ranks of the accounting function, the status and influence of accountants is bound to suffer. Ponton and Cooper (1994) argue that accountants need to make the transition from "information manager" to "change manager" and this different role will require accounting educators and educational institutions to critically reexamine the objectives and structures of their current courses!

Appendix 1:

PANEL A:

OWNERSHIP OF RESPONDING COMPANIES

	No.	%
Subsidiary of multinational	148	73%
Irish, indigenous company	56	27%
	204	100%

PANEL B:

COMPANIES ANALYSED BY INDUSTRY CLASSIFICATION

	No.	%
Chemicals and fertilisers	12	6%
Computers	13	6%
Construction and engineering	19	9%
Consumer goods	9	4%
Drugs and pharmaceuticals	32	16%
Electrical/computers	14	7%
Food/drink/tobacco	42	21%
Paper/packaging/printing	11	5%
Textiles and clothing	10	5%
Other	42	21%
	204	100%

PANEL C:

COMPANIES ANALYSED BY ANNUAL TURNOVER

	No.	%
Less than £3 million	6	3%
Between £3 to £5 million	6	3%
Between £5 to £10 million	38	19%
Between £10 to £20 million	47	23%
Between £20 to £50 million	52	25%
Between £50 to £100 million	22	11%
Over £100 million	33	16%
	204	100%

PANEL D:

COMPANIES ANALYSED BY NUMBER OF PRODUCTS

	No.	%
A single product	14	7%
Two to five similar products	25	12%
More than five similar products	109	53%
A few dissimilar products (2 to 5)	4	2%
More than five dissimilar products	52	26%
	204	100%

Appendix 2:

COMPARATIVE DATA

	1991 Survey	1995 Survey
* Direct labour hours/cost as cost driver for absorbing production overheads	52%	52%
* Reasons for use of cost driver base (above)		
- logical association	56%	50%
- strong statistical association	11%	12%
* Direct labour as a variable cost	63%	65%
* Method of segregating fixed and variable costs		
- judgement / account classification	80%	78%
- regression analysis	1%	1%
* Decision making techniques		
- CVP analysis	85%	82%
- Linear programming	5%	2%
* *Important considerations in normal selling price decisions*		
- level of competitors' prices (mean)	3.35	3.34
- market research studies (mean)	2.13	2.00
* Important considerations in make or buy decisions		
- cost/contribution (mean)	3.25	3.48
- quality	3.35	3.27
- employee job security	2.21	2.39
* Standard costing for		
- Direct materials	97%	84%
- Direct labour	90%	69%
- Production overheads	80%	59%
* Setting cost standards		
- past performance	65%	66%

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