Technical Report

INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD

IMPLEMENTATION PROBLEMS OF MANAGEMENT CONTROL SYSTEMS

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Technical Report

Title of the report Implementation Problems of Management Control Systems

Name of the Author S K Bhattacharyya & J C Camillus

Under which area do you like to be classified? Financial Management & Control

ABSTRACT (within 250 words)

Objectives: To provide a deeper understanding and a systematic analysis of the implementation problems of management control systems in Indian companies, and to determine the relationship, if any, between these problems on the one hand, and the characteristics of the company and the design of the management control systems on the other. Also, the research project was intended to develop recommendations for:

1. Minimising the occurrence of the implementation problems
2. Eliminating problems when they occur
3. If inevitable, reducing their severity

Finding

There were two major and distinctly different types of objectives which the management control system can serve, viz., the technical objectives and the managerial objectives. With regard to the managerial dimension, it was found that it was the use which management made of the system that determined its effectiveness rather than the sophistication of design of the system. The design of the management control system had a relatively greater role to play with regard to the technical dimension of effectiveness.

further findings were:

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Date Oct. 21, 1975.

Signature of the Author

1. A rational organizational structure was an important prerequisite for the effectiveness of the management control systems.

2. The absence of efficient reporting systems providing timely managerial information relating to key results areas was often a cause of ineffectiveness.

3. Top management use of the system, particularly demonstrated in the review and follow-up exercise, was the primary determinant of the system's effectiveness.

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ACKNOWLEDGEMENT

This research project would not have been possible without the financial help of the Indian Institute of Management, Ahmedabad, the unstinted support of the Institute of Chartered Accountants of India and, most importantly, the tremendous amount of co-operation extended to the researchers by executives in industry. The response rate to the questionnaire has been truly phenomenal. In fact, in view of the length of the questionnaire, it is indeed a matter for considerable gratification that the researchers received responses from about 90 selected, large Indian companies. In addition, the generosity of several executives in some of the companies, who spared a considerable amount of their time responding to the researchers' questions and issues in personal interviews, has left the researchers most indebted.

The researchers wish to place on record the very great debt of gratitude owed to the Indian Institute of Management, Ahmedabad, the Institute of Chartered Accountants of India, and the companies and the executives who participated in the research study.

IMPLEMENTATION PROBLEMS OF MANAGEMENT CONTROL SYSTEMS

OBJECTIVES OF THE STUDY

The design of management control systems has been essentially "standardised" for the past few years as a result of extensive research, writing, and practical experience. The major problems presently being experienced with regard to management control systems, as pointed out by Professor John Dearden in his acceptance speech on assuming the Krannert Chair at the Harvard Business School, relate to implementation and administration rather than the design.

> "Administration is the key. What must be recognised is that for effective implementation, the same technique may have to be administered differently depending upon the organizational variables."[1]

Unfortunately, the research that has been done so far on implementation problems is more relevant to the Western than the Indian business environment, and considers problems individually rather than in their totality.

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[1] See: Harvard Business School Bulletin, Vol.XLV, No.6, (November-December 1969), .26.

The specific objectives of this research project were, therefore, to provide a deeper understanding and systematic analysis of the implementation problems of management control systems in Indian companies, and to determine the relationship, if any, between these problems on one hand, and the characteristics of the companies and the design of management control systems on the other.

Also, and perhaps more importantly from the point of view of industry, this research project was intended to develop recommendations for:

(i) minimizing the likelihood of occurence of implementation problems;

(ii) eliminating problems when experienced; and

(iii) reducing their severity if inevitable.

THE BASIC HYPOTHESIS

The basic hypothesis of the research study was that the effectiveness of management control systems is more dependent on the manner in which the system is implemented and administered than on the design of the system itself.

It must be emphasised, however, that in the light of the objectives detailed above, this research project was intended not only to test the validity of the above hypothesis but also to suggest ways and means of mitigating the dysfunctional impact of implementation problems if encountered. Thus, even if the basic hypothesis regarding the relative importance of design and implementation in terms of effectiveness of the system was not validated, still from the point of view of designers and users of management control systems, the research project would hopefully, yet serve a purpose if mechanisms for reducing the impact of implementation problems were identified.

CLASSIFICATION OF IMPLEMENTATION PROBLEMS ANTICIPATED

The researches conducted by Deming[2] and Stedry[3] are typical of the normative analyses on the basis of which the design of management control systems has been standardised. Such research also helps identify possible problem areas that are likely to be encountered. Drawing from these works and from case studies and practical experience in designing and implementing management control systems, a classification of the implementation problems on which the study focuses, was developed.

The implementation problems anticipated need to be broken up into:

a. Problems that impede the management control process.

b. Problems that are dysfunctional consequences of the management control process.

Each of these categories can in turn be meaningfully segmented into:

a. Organizational and behavioural problems
b. Technical problems.

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[2] Robert H. Deming, Characteristics of an Effective Management Control System in an Industrial Organization, (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1968).

[3] Andrew C. Stedry, Budget Control and Cost Behaviour (Englewood Cliffs, N. J.: Prentice-Hall, 1960).

Thus it is possible to visualize implementation problems that fall into a four celled matrix as diagrammed below:

	Technical	Organizational and Behavioural
Impediments	Eg. Excessive dependence on financial accounting system for management information	Eg. Inappropriate Organizational structure, or management style
Dysfunctional Consequences	Eg. Over-emphasis on the ROI measure to the detriment of long-term profits	Eg. Focus on apportionment of blame rather than determination of needed remedial action.

The Nature of Implementation Problems

In terms of delineating the researchers' understanding of the implementation problems likely to be experienced it would perhaps be best to attempt a description in the context of the matrix described above. Thus, it would be necessary to detail the problems expected in the following sequence:-

i. Organizational and behavioural impediments to implementation of management control systems;

ii. Technical impediments to implementation of management control systems;

iii. Dysfunctional organizational and behavioural consequences of the implementation of management control systems;

iv. Dysfunctional technical consequences of the implementation of management control systems.

Organizational and Behavioural Impediments:

Organizational and behavioural problems likely to impede the management control process can be assigned to one of the following groups:

i. Problems resulting from inapropriate formal organizational structures. Ill-defined lines of authority and responsibility would fall into this category. Organizational boundaries and sub-units which are not in keeping with the responsibility centres identified by the control systems are another example of such problems.

ii. Problems arising from corporate philosophies, norms and cultures detrimental to the concept of control implicit in the design of management control systems. In this category would also fall problems arising from a lack of understanding of the motivational connotations of management control.

iii. Problems arising from the existence of informal organizational linkages and communication which are not in keeping with those presumed to exist by the control systems.

iv. Problems arising from a lack of competent executives to administer the management control system. This group of problems is anticipated in view of the fact that in India there are relatively few trained "Controllers", as distinct from "Accountants".

Technical Impediments:

Technical problems likely to impede the implementation of management control systems primarily arise from:

i. The accounting process - for instance, the trade-off between speed and accuracy in providing financial accounting data and the fact that decisions made in certain accounting periods give rise to consequences in other accounting periods.

ii. The conflict between the assumptions necessary for custodial accounting and for purposes of statutory external reporting and those required for management control.

iii. The differing time spans for management control and operational control decisions and the impact of both types of decisions on each functional area. For instance, production budgeting as an input to the management control system would be essentially medium term with an emphasis on the "product-mix", whereas production scheduling oriented towards operational control is more short-term and based on sales indents and inventory criteria.

Dysfunctional Organizational and Behavioural Consequences:

Dysfunctional behavioural consequences of control have been the subject of considerable study. Merton[4] for instance analyzed the effect of an increase in control within an organization and asserts that one of the results of an increased demand for control within an organization is a decrease in the amount of search for alternatives. March and Simon[5] in their appropriately famous decision model consider the expected value

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[4] R. K. Merton, "Bureaucratic Structure and Personality", Social Forces, Vol.XVIII, (1940), pp.560-568.

[5] James G. March and Herbert A. Simon, Organizations, (New York: John Wiley and Sons, 1958).

of reward - which is essentially a management control consideration - to be an important element in the management decision making process. Cyert and March[6] analysed the impact of control on behaviour by introducing behavioural considerations into an economic model of the firm. O. E. Williamson[7] also developed models along these lines. Stedry's[8] prize winning dissertation too, looked at the impact of budgets on behaviour. Most recently Dalton[9] has been engaged in continuing research on aspects of motivation and control.

Unfortunately, all these efforts to determine the dysfunctional behavioural consequences of control suffer from the following drawbacks when looked at from the perspective adopted for this study.

a. The findings of these research studies cannot be readily extended to cultures other than those of the industrially developed, accidental countries.

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[6] Richard M. Cyert and James G. March, A Behavioural Theory of Firm, (Englewood Cliffs, New Jersey: Prentice-Hall, 1963).

[7] O. E. Williamson, The Economics of Discretionary Behaviour: Managerial Objectives in a Theory of the Firm. (Chicago: Markham Publishing Co., 1967). Also: Corporate Control and Business Behaviour, (Englewood Cliffs, N. J.: Prentice-Hall, 1970).

[8] Op. cit.

[9] Gene W. Dalton, and Paul R. Lawrence, eds., Motivation and Control in Organizations, (Homewood, Ill., Richard D. Irwin, 1971).

b. The approaches are broad-gauged. The thrust is essentially to determine the consequence of efforts at manipulating behaviour; whereas this study is considerably more operationally focussed, with the intent of identifying dysfunctionalities in behaviour resulting from the introduction of management control systems.

Consequently an identification of dysfunctional behaviour resulting from the introduction of management control systems is a very deeply felt need at present.

Dysfunctional Technical Consequences:

Dysfunctional consequences of a technical nature have also been the subject of considerable study. Typical are Dearden's article on problems of financial[10] and profit[11] control. Some solutions to these technical problems have also been proposed - for example Henderson and Dearden's[12] article on the contribution approach to divisional control. In the case of technical problems too, not much research has so far been accomplished in the Indian context.

The dysfunctional consequences of management control systems express themselves primarily in terms of behaviour detrimental to the achievement of corporate goals and objectives. The distinction between problems that have been labelled 'organizational and behavioural' and 'technical' is that the former stem from management's attitude towards control whereas the

[10] John Dearden, "Problem in Decentralised Financial Control", Harvard Business Review, (May-June 1961).

[11] John Dearden, "Problem in Decentralized Profit Responsibility", Harvard Business Review, (May-June 1960).

[12] Bruce D. Henderson and John Dearden, "New System for Divisional Control," Harvard Business Review, (September-October, 1966).

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of the study and the areas of enquiry, a four celled matrix can best elucidate the approach.

OBJECTIVES

	Support Hypothesis	Develop Recommendations
Technical	Questionnaire based survey	Questionnaire + In-depth interviews
Organizational and Behavioural	Questionnaire + In-depth interviews	In-depth interviews

Questionnaire Based Survey

Questionnaires were sent to about 170 carefully selected Indian companies. Responses were received from 93 of these 170 companies. Of these 93 responses, five were not found to be comprehensive enough to be included in the analysis. Consequently, 88 questionnaires were coded, transferred to magnetic tape and stored in the memory facilities of the IIMA's HP 2116 B Computer

The companies to which the questionnaires were sent were selected to represent a spectrum along the following parameters.

1. Size (Annual Sales Revenue);

2. Location (Northern, Southern, Eastern and Western Regions);

3. Nature of Operations (Trading, Processing, Light Engineering, Heavy Engineering and Service Industries);

4. Type of Ownership (Public Sector, Wholly Indian-Owned Private Sector, Private Sector with Minority Foreign Holdings, Private Sector with Majority Foreign Holdings);

5. Management Style (Professionally Managed, Traditionally/ Family Managed).

The questionnaire employed is reproduced in Annexure I.

The questionnaire was segmented into six major parts each of which is described below:

A. Company Characteristics: This part of the questionnaire focused on size, location, geographical dispersion, diversity of productline, diversity of customers, type of management and percentage of foreign equity holdings. It was felt that these parameters would adequately describe the nature of the organizations in the sample from the point of view of the study. In addition, published financial statements of the respondents were also employed as a means of obtaining data in relation to part A of the questionnaire. The figures drawn from the published financial statements which were incorporated in the analysis were sales, gross assets, average gross assets to sales ratio, funds employed, margin, compounded growth rate of profits after tax, compounded growth rate of sales, and margin to sales ratio. In addition, the financial statements provided additional insights into the characteristics of the organizations as they indicated whether the organizations were subsidiaries of a foreign company, were previously managed by a foreign managing agency, were previously managed by an Indian managing agency house, were companies with substantial participation by foreign collaborators were companies belonging to families, and whether they were in the public sector or not.

B. Objectives: The existence of formally stated objectives in the organizations, the parameters employed in stating these objectives and the factors considered when developing objectives were examined in this part of the questionnaire.

C. Budgeting Process: This part of the questionnaire incorporated a detailed analysis of the sales, production, overhead and company-wide budgets focusing on the extent of detail in the financial budget documents, both in terms of sub-units and time periods, the extent of participation in the development of budgets, the nature of the review process prior to the finalization of the budgets, and the factors taken into consideration when developing the budgets. In addition, general questions relating to budgeting were asked regarding the extent of participation, the nature of reviews during the course of the budget period, the approach to revisions of the budget during the budget period and the time period taken to prepare budgets.

D. Control System and Process: This part of the questionnaire examined the content, frequency and recipients of the reports pertaining to the management control system. In addition, the timeliness of the reports and the methods employed for developing reports (manual/EDP) were considered. The staffing and location of the management control departments was considered, as well as the companies' practices in relation to certain crucial technical aspects such as the use of standard costs, the nature of responsibility centres, the approach to transfer pricing and the use of non-financial indicators of performance.

E. Problems Experienced: This part of the questionnaire covered the entire range of implementation problems which researchers felt could be reasonably expected to be found in the responding organizations. As the number of problems considered are quite numerous and also as the nature of each is to be discussed in detail in the course of this report, no further details about this part of the questionnaire are provided at this stage.

F. Effectiveness: This part of the questionnaire sought to obtain top management's assessment of the effectiveness of the control system with regard to production, sales, overhead, costs in general, profit and overall corporate performance.

indeed happened to be the case. Consequently, the section on effectiveness perhaps possesses a great deal of bias as it might reflect the understanding of the controller or administrator of the system regarding top management's feelings regarding the effectiveness of the system. While this bias might exist, it was reassuring to note that a large number of responses, judging from the covering letters, seem to have received the personal attention of the chief executives of the responding organizations.

Fourth, the tenuous and subjective nature of the measure of effectiveness obtained through Part F of the questionnaire must be recognised. However, to obtain more objective measures of effectiveness in relation to management control systems would be quite impossible.[13] Simple logic suggests that an effective management control system in a commercial organization would show its impact through an increase in profits. However, the total absence of ceteris paribus conditions makes it impossible to link changes in profit with the effectiveness of the management control system. Consequently, the measure of effectiveness obtained, while no doubt subjective, is defended on the grounds that, in the researcher's opinion, it is the best that can be obtained under the circumstances.

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[13] Considerable research has been carried out in this regard. However, even the better pieces of work essentially try to structure subjective evaluations of the planning and control system and do not offer any objective measures of effectiveness. The work done in this area by Professor John Shank of the Harvard Business School is typical of this approach.

Some qualifications need to be emphasised in relation to the questionnaire used. First, the sample was by no means random. The companies were selected by the researchers in the expectation that they would possess relatively sophisticated, mature and formal management control systems. Also, the criteria for selecting the organizations were that they should be dispersed along the various other parameters identified in relation to organizational characteristics.

Second, the scales employed in the questionnaire were, by and large, five point scales. While the use of five point scales can reasonably be expected to result in a "central tendency" in the responses received, it was felt that it would be unreasonable to force a decision towards either end of the scale, although in terms of statistical significance the research findings might consequently have been more striking. Also, five point scales were felt to be adequate to provide the level of accuracy desirable and feasible given the nature of the questions asked.

Third, the questionnaires were expected to be responded to by top management in consultation with the "controller" or administrator of the management control system. However, it would be quite unrealistic for the researchers to suggest that this

In terms of analysing the data obtained through the questionnaire, two statistical techniques were used. First, frequency distributions were developed for all the variables identified in the questionnaire and from the published financial statements. These frequency distributions are detailed in Annexure II and Annexure III. The analysis of these frequency distributions was expected to provide a detailed understanding of the organizational characteristics, the design of the control system, the problems experienced and management's opinion regarding the effectiveness of the control system. These frequency distributions alone in the researchers' opinion, could be of very great use to both designers and administrators of management control systems as they are a fairly comprehensive listing of the factors which should influence the design of the control system and also the variables which designers and administrators can manipulate in order to enhance the effectiveness of the control system. The only comparable study in the Indian context is that of Dave and Murthy,[14] which in contrast provides details in relation to only 36 organizations and focuses more on financial/cost accounting mechanics rather than management control.

In addition, contingency table (cross-break) analysis was carried out on the data obtained in order to relate:

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[14] Mahendra Dave and Guruprasad Murthy, Control Practices in Indian Industry, (Bombay: University of Bombay, 1972).

i. Organizational characteristics and measures of effectiveness;

ii. Design features and measures of effectiveness;

iii. Implementation problems experienced and measures of effectiveness.

The results of the cross-break analysis were found to be so clear cut and striking that it was evident that even slightly more sophisticated techniques such as the use of multiple regression (employing the dummy variable technique) would not provide additional insights into the data. Both the Chi-Square (measure of statistical significance) and the Contingency Coefficient (measure of association) were developed in conjunction with the cross-break analysis.

In-Depth Interviews:

Following the statistical analysis based on data obtained from the questionnaire, in-depth interviews were carried out in seven carefully selected organizations. These organizations were again selected on the basis of a representative sampling in accordance with the parameters of organizational characteristics discussed early. The interviews were structured into the following segments:

i. Verification of answers to the questionnaire on a sample basis.

ii. The determination of changes in design initiated during the period between the completion of the questionnaire and the time of the interview.

iii. Obtaining details of actual instances and experiences

which led to the response relating to the implementation problems;

iv. Obtaining a more detailed understanding of the review and follow-up process employed at various levels of management in the organization.

v. Obtaining details regarding the organization's response to each implementation problem experienced;

vi. Obtaining the interviewees' reactions to the researchers' recommendations regarding responses to specific implementation problems.

Segments iii and iv of the interview were also employed to develop a better understanding of the behavioural and organizational problems experienced in these organizations. This was particularly important in view of the fact that the questionnaire approach is better suited to an identification and examination of technical rather than behavioural and organizational problems.

FINDINGS FROM THE FREQUENCY DISTRIBUTIONS

Organizational Characteristics

A scrutiny of Annexure III highlights the following facts:-

i. 14 of the public limited companies among the respondents have annual sales of less than Rs.50 million;

ii. 26 have assets less than Rs.50 million;

iii. 26 employed funds of less than Rs.50 million.

Many of the companies have an impressive record of growth in profits and sales. Seventeen of the companies are subsidiaries of foreign companies while another 17 belong to the public sector. Eight of the companies are essentially family-run business houses.

Additional organizational characteristics are also given in Annexure II (variables 002 to 014). These variables also confirm the fact that organizations in the data bank are large. It will be noted that:

i. Over 18% of the responding organizations have more than 1,000 employees.

ii. 26% essentially sell industrial goods while about 39% primarily sell to industrial consumers.

iii. 21% of the responding organizations produce primarily capital/durable goods.

iv. 69% produce primarily consumable goods.

v. 14% of the responding organizations are more dependent than the average Indian organization on sub-contractors.

vi. 31% have more than average problems with raw material availability; 22% have less than average problems with raw material availability.

vii. 39% are more dependent than the average Indian organization on imported raw materials; 32% have little or no dependence on imported raw materials.

viii. Of the Board of Directors, only the Managing Director is involved full-time in the affairs of the company in 40% of the responding organizations, and 2 to 3 directors are involved full-time in 37% of the responding organizations.

ix. Approximately 73% of the companies have 50% or less of their equity held byforeign interests.

The broad picture that emerges from the above figures is that the organizations surveyed are large in terms of sales, assets, funds employed and number of employees; are engaged in the production of both industrial and consumer goods; are predominantly Indian owned; and occupy a wide spectrum in terms of dependence on imported raw material and on raw material availability.

Organizational Objectives

Annexure II also provides considerable insights into the nature of the organizational objectives in existence. Only 2% of the responding organizations do not have formally stated objectives. On other extreme, 8 of the organizations employed five or more parameters (such as profit/sales/ROI/etc.) when stating their organizational objectives.

A combination of profits, ROI and other measures appears to be the most popular with 68% of the respondents employing these parameters. Only 18% employed profits alone and 1% employed only ROI as an objective.

The organizations tend to use several criteria when formulating objectives. Past performance of the organization plays a vital role in determining organizational objectives in 95% of the organizations. Manpower availability on the other hand is considered when formulating objectives in only 34% of the organizations. The remaining factors such as environmental considerations, competitive trends, strengths and weaknesses of the organization and plans for capital projects are employed by 46% to 66% of the organizations.

Budgeting Process

The degree of sophistication and detail employed in developing and stating the sales budget is generally very high. For instance, 36 out of 84 companies replying to this particular question break up their sales budget both productline-wise and geographic region-wise. Another 42 break up the sales budget into either geographic region or product-line categories. Monthly sales budgets are developed in most of the companies.

The sales budget is reviewed by top management in at least 64 out of 83 companies. Past sales, competition and specific estimates of customers' demands are all employed in the large majority of companies as bases on which the sales budget is developed. Twenty out of 83 companies also consider econometric data when developing sales budgets.

Production budgets are also quite detailed. The emphasis is primarily on costs - with the majority of companies specifically identifying both variable and departmental costs, 68 out of 76 companies also identify "contribution" or "margin", for either productlines or products.

In terms of non-financial indicators, the production budgets generally do not consider these except for two, namely:

i. standards for material consumption, and

ii. standards for planned yields.

With regard to the overhead budget, 76 out of 82 companies develop such budgets. Fifty-five identify both discretionary and committed costs and only 9 employ neither of these classifications for overhead costs.

With regard to the company-wide budget, 71 out of 85 companies break up their cash flow statements into quarterly or shorter periods. Only 3 of the 85 do not develop cash flow statements. Working capital too is budgeted in almost all companies.

Participation of lower levels of management in the development of budgets is quite extensive. In 29 out of 85 companies there has to be a mutual agreement between operating and top management. In another 53, the opinions of operating management carry weight.

Reviews with intent to revise the budget are not ordinarily held in 32 out of 85 companies. In 42 out of 86 companies the budget is revised only if there are drastic changes beyond management's control.

All companies initiate their budget development at least a month prior to the start of the budget year. Fifty out of 80 companies initiate the budget development over three months prior to the budget year.

The Control System and Process

Regarding reports going to the top management,[15] it is of interest to note that no formal reports are made in 4% of the responding organizations while on the other hand one organization has as many as 60 reports going to top management. With regard to executive management, 4% received no formal reports while as many as 100 reports are received by executive management in one organization. In about 6% of the organizations, operating management received no reports while as many as 63 reports are received by operating management in one organization.

[15] The term "top management" is employed to describe those executives responsible for the operations of the organization as a whole such as the Managing Director. "Executive management" refers to those executives responsible for one function throughout the organization (production/sales manager) or responsible for all functions in a limited geographical area (regional general manager). "Operating management" refers to executives responsible for the carrying out of specific tasks (production superintendent/regional sales manager).

Top management tends to get less reports on non-financial items such as quality, usage, efficiency and capacity utilisation as compared to executive and operating management. On the other hand, reports on profits are received by top management in all organizations where formal reports are made while executive management and operational management receive such reports in successively fewer number of instances.

The speed with which reports are generated varies between the extremes of within five days after the end of each reporting period to as much as more than two months after the end of the reporting period. The majority of organizations tend to get the reports within a month of the end of the accounting period. However, production and sales reports seem to be much more speedy than reports on overheads, profits and non-financial indicators. Reviews of actual versus expected performance are most commonly conducted monthly (65% of the organizations). Another 25% of the organizations conduct quarterly reviews. Only 4% do not conduct any reviews on actual versus expected performance.

Of the respondents, 48% prepare the management control reports manually. On the other hand 36% employ electronic data processing equipment.

A negligible proportion of organizations do not take actions on the basis of reports. Sales promotion appears to be the most commonly employed remedial action taken on the basis of the reports generated by the management control system.

About 13% of the organizations give the title of "Controller" to the executive administering the management control system. Another 11% entrust the administration of the management control system to the "Chief Accountant". In 76% of the organizations the administrator of the management control system reports to the chief executive.

Of the responding organizations, 50% employ 1 to 3 professional staff in administering the management control system. With regard to clerical staff, the modal value is between 1 to 5, with 49% employing this number of clerical staff. About 57% of the responding organizations have less than a total of 10 professional and clerical staff engaged primarily in administering the management control system.

In 66% of the responding organizations, the chief executive spends 5% or less of his time in setting up the budget while in terms of performance evaluation based on the budget, only 39% of the chief executives spend 5% or less of the time on this activity. Very clearly the frequency distributions of variables 140 and 141 indicate that the chief executives spend much more time in performance evaluation based on the budget as compared to the

time spent on setting up the budget.

Of the responding organizations, 66% employ "standard costs" in their control system. The most popular method of developing standards is the use of past performance with 22% employing this criterion. Industrial engineering is used as a basis for setting standards in 10% of the responding organizations. A combination of industrial engineering and past performance criteria are employed by 35% of the responding organizations.

Only 15% of the responding organizations do not employ the concept of responsibility centres. Another 42% employ only cost centres and 7% employ only profit centres, while 36% employ both cost and profit centres.

About 49% of the organizations do not employ the concept of "transfer prices". Of those which employ transfer prices, there appears to be a wide range of practices in terms of the use of various methods for developing transfer prices such as the use of market values or standard cost plus a specific mark-up.

From the above, it is evident that a large majority of the organizations surveyed employ fairly sophisticated, formal management control systems. Standard costs are widely used.

Interestingly, past performance seems to be the primary base on which standards are set. The concept of responsibility centres is quite widely used, though an anomalous situation appears to be the use of profit centres alone without identification of cost centres within them. With regard to transfer prices, the most interesting finding is that there appears to be considerable variation in the approaches employed in arriving at the transfer price.

Problems Experienced

With regard to the difficulty of collecting data relating to sales volume, sales price, production volume and production cost, the overwhelming majority of organizations experienced little or no difficulty in obtaining such information.

With regard to the financial accounting system impeding the control system because of the need to adhere to accepted financial accounting practices and company law requirements, only two of the organizations stated that they are experiencing serious difficulties.

The percentage of responding organizations experiencing serious difficulties in relation to specific implementation problems is indicated in Table 1 below:

Sl. No.	Implementation Problems	% of responding organizations experiencing high degree of difficulty
1	Delays in data submission	18%
2	Shared responsibility for variance	17%
3	Authorities and responsibilities not clearly defined	13%
4	Collection of data from different sources	13%
5	Changes in budget assumptions	12%
6	Excessive time for obtaining data of adequate accuracy	11%
7	Differences of opinion regarding controllability of variances	10%
8	Excessive time owing to need for adequate accuracy	6%
9	Reliability of data	6%
10	Excessive time owing to use of data of excessive accuracy	6%
11	Lack of congruence	5%
12	Inadequate status of the administrator of the control system	5%
13	Standards not attainable	4%
14	Excessive control causing inhibition	2%
15	Inadequate resources provided by top management	2%
16	Inadequate attention paid to reports by top management	1%
17	Overly short accounting period	0%
18	Standards not accepted by operating management	0%

The most widely experienced problems of a serious nature seem to be in relation to lack of clarity in organizational structure and the sharing of responsibility of variances by more than one executive. Obviously these two problems are closely inter-linked and raise a basic issue regarding the responsibility of and need for the designer of the control system to ensure a meaningful and rational organizational structure with clearly defined and appropriately matching responsibility and authority.

With regard to shared responsibility for variances, problems most often arise in connection with the responsibilities of the production and sales departments. The finance and personnel functions apparently do not impinge very much on operations while purchase and maintenance often share responsibility with the production department.

The use of the five point scale has resulted in a considerable central tendency, as the modal value of responses regarding each of the implementation problems described above generally tend to occur either at the mid-point of the scale or the "no problem" end of the scale.

Effectiveness

With regard to effectiveness, the percentage of organizations which perceive their management control systems as less effective than average in relation to various aspects of operations is listed in Table 2 below:

Table 2

Sl. No.	Factor	Percentage
1	Overhead	14%
2	Cost	12%
3	Profit	11%
4	Production	10%
5	Overall Corporate Performance	10%
6	Sales	4%

From the above it appears that most of the organizations perceived their systems to be quite effective. In fact, all the distributions regarding perceived effectiveness in relation to the several factors considered are skewed very heavily towards the "very effective" end of the scale. The most serious problem seems to be experienced in regard to overhead. Not surprisingly in the Indian context, control of sales, at least at the time of administration of the questionnaire, gave rise to the least amount of problems.

While the above describes the highlights of the frequency distributions, it would be a useful and probably illuminating experience to go through all the details provided in Annexures II and III. However, to reproduce the information provided in these annexures in its entirity would be an unnecessary repetition here.

FINDINGS FROM THE CROSS-BREAK ANALYSES

Cross break analysis was employed to examine the relationship[16] between the design of the management control systems and the perception of the respondents regarding the effectiveness of the systems, along several dimensions. The contingency tables developed are reproduced in Annexure IV. From these analyses, it is possible to identify the implementation problems which have a significant association with the perceived effectiveness of the management control systems.

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[16] The most useful statistics developed from contingency table analysis are the contingency coefficient and the level of significance. For those unfamiliar with these measures any text on statistics should provide an explanation. A useful work is "Non-parametric Statistics" by Sidney Siegel.

Very briefly, the higher the contingency coefficient, the greater the association between two variables. Generally speaking a contingency coefficient of 0.3 or more is indicative of meaningful association between two variables - given the low number of degrees of freedom involved.

The level of significance is given in percentage terms and is a measure of the probability that the statistics obtained are the result of a random occurance. For instance, a level of significance or "confidence level" of 1% means that there is only a 1% chance of the observed relationship being a random occurence. It would be necessary therefore to view the contingency coefficient from the perspective of the significance level. A significance level of 5% is generally accepted as satisfactory.

Effectiveness with Regard to Overall Corporate Performance

The demographic characteristics of the organizations showed no association (correlation) with the perceived effectiveness of their management control systems. It was interesting to note that the most significant relationship between systems design and effectiveness was evident in relation to the reasons for revising budgets.

In contrast, almost all the implementation problems identified, showed asignificant relationship with the perceived effectiveness of the management control systems with regard to overall corporate performance. Table 3 below lists, in order of the degree of association, the problems that are found to be related to the effectiveness of management control systems.

Table 3

Sl. No.		Level of significance	Contingency Coefficient
1	Delays in availability of data caused by use of data of excessive accuracy	1%	.443759
2	Inadequate status of the administrator of the control system	1%	.436415
3	Authorities and responsibilities of individuals not defined with adequate clarity	1%	.396485
4	Executives resenting the control system and viewing it as a curb on their innovative ideas	1%	.387292

5	Top management not providing adequate resources to effectively implement the control system	1%	.385189
6	Lack of reliability of data	1%	.382602
7	Excessive time required to obtain data of adequate accuracy	1%	.381747
8	Top management not paying adequate attention to reports generated by the control system and not acting on the reports	5%	.354352
9	Differences between company's objectives and objectives of individual executives	5%	.348269
10	Periods for which variance reports are developed being too short to provide meaningful data	5%	.345887
11	Changes from the assumptions made at the budget development time	5%	.345137
12	Delays in data submission	5%	.331234
13	Differences of opinion regarding the controllability of variance	10%	.326403
14	Excessive time required to compile and process the data	10%	.303977

It is ofparticular topical interest to note that, after the problems caused by delays in data availability, the problems most highly correlated with effectiveness are those of inadequate status being given to the administrator of the control system and

a lack of clarity in the definition of the responsibilities and authorities of individual executives. The latter problems raise questions of organizational structure which have only of late been exercising the minds of researchers and systems designers in the area of planning and control[17].

Effectiveness with regard to Profit, Cost, Overhead, Sales & Production

In addition to the cross-break analysis carried out in relation to perceived effectiveness with regard to overall corporate performance, similar analyses were carried out in relation to effectiveness with regard to profit, cost, overhead, sales and production. The significant findings from these cross-break analyses are given in Table 4 below:

Table 4

Sl. No.	Parameter	Design Feature	Level of Significance	Contingency Coefficient
1	Profit	Specification of cost at which goods are to be produced specified in the budget	1%	.350637
2	Cost	Specification of cost at which goods are to be produced specified in the budget	1%	.349914
3	Overhead	Existence of overhead budget	1%	.326526
4	Sales	Who prepares sales budget	1%	.447126

[17] See: Robert N. Anthony, John Dearden and Richard F. Vancil, Management Control Systems, (Homewood, Illinois: Richard D. Irwin, rev. ed., 1972), pp.395-410.

Also: J. C. Camillus, "Management Information Systems and the Corporate Organizational Structure", The Chartered Accountant, (July, 1973).

The relationships indicated by the findings listed above lend themselves to logicalexplanations. In the Indian situation, markets are relatively assured (as mentioned with regard to the frequency distribution of effectiveness with regard to sales). The price-volume relationship, in the Indian context of assured markets and licensed limits to capacity, takes on secondary importance as compared to the cost at which goods are produced. In addition to licensed capacity, another factor limiting production and hence sales volume is the availability of raw material.

Thus, specification of the cost of production, in the budget quite logically should have a major impact on effectiveness of the management control system with regard toprofit. A corroboration of the importance of availability of raw material is suggested by the relationship (at the 5% significance level with a contingency coefficient of .278914) between this factor and profits.

The effectiveness of the management control systems with regard to cost are naturally linked with the existence of budgets focusing on targeted levels of cost.

With regard to control of overhead, it is particularly significant that the very existance of an overhead budget ensures that overheads were more effectively controlled. The nature of overheads is such that optimal relationships are not definable,

by and large, and consequently it is essentially the managerial attitudes towards overheads which ensure effective control. In the area of "managed" or "discretionary" costs, it has been generally proposed by experts that if appropriate questions are asked at the budget development time and if operating management is made conscious of top managements' desire to control the level of overhead then perhaps the best attainable degree of control will be achieved. The statistical relationship identified confirms the operational validity of this hitherto theoretical proposition.

The effectiveness of the management control system in relation to sales is linked with the identity of the executive who prepares the budget. Here again, explanations of the reasons for this relationship would be an exercise in tautology.

FINDINGS FROM THE INTERVIEWS

Seven organizations were selected for in-depth interviews. A mix of characteristics in terms of types of ownership and management, type of industry and geographic location was ensured.

Verification of answers to the questionnaire proved to be particularly difficult in view of the fact that in some of the organizations major changes had taken place in the design of the control system during the period between administration of the questionnaire and to the time of the interviews. In one sense, these changes were very desirable as they provided an opportunity for understanding in pragmatic terms, the rationale behind the design of management control systems in these organizations.

The remaining elements of the interviews which were described earlier in the section on methodology led primarily to substantiation, modification and addition to the researchers' recommendations for responding to the variety of implementation and administration problems identified. Consequently, the findings from the interviews are more suitably incorporated in the following two sections of this report.

INTEGRATING THE EMPIRICAL FINDINGS

The empirical findings, the interviews in particular, have suggested two insights of major significance. Firstly, the concept of effectiveness of management control systems requires re-definition to take into account the fact that effectiveness can relate to more than one dimension. Secondly, "implementation problems" need to be classified into two categories, namely problems of implementation and problems of administration.

The Dimensions of Effectiveness

On the basis of the interviews and the analysis of the statistical data, the researchers felt that there were indications that the effectiveness of management control systems should be considered along two distinctly separate dimensions.

These two dimensions are:

i. the managerial effectiveness of the system, and

ii. the technical effectiveness of the system.

The managerial effectiveness of a management control system relates not so much to the financial results and operating performance of the organization but rather to the ability of the management control system to pinpoint and anticipate problems and to provide a vehicle for management action.

The technical effectiveness of a management control system on the other hand would concentrate on the achievement of the organization in relation to specific, primarily financial indicators of performance such as sales, production, costs in general and overhead in particular.

While the distinction between managerial and technical effectiveness is not difficult to make, it must be emphasised that in certain areas these dimensions of effectiveness tend to overlap. For instance, corporate performance along the parameter of profit would be a systemic indicator of effectiveness along the technical dimension and at the same time be a surrogate indicator of effectiveness along the managerial dimension.

Unfortunately, at the start of the research project the distinction between these two dimensions of effectiveness were not quite crystallised or consciously taken note of by the researchers. In the course of the interviews however, it became abundantly evident that certain organizations were not so concerned with the effectiveness of the management control system in ensuring adherence to specified targets in relation to production, sales and costs, but were primarily if not solely concerned with the effectiveness of the control system in terms of acting as a radar system for identifying areas requiring managerial attention and as a system for ensuring that appropriate remedial action is decided and implemented effectively.

If one accepts the existence of these two dimensions of effectiveness, then both the a priori hypothesis as well as the statistical findings need to be reviewed. The hypothesis would certainly be even more appropriate in the context of the managerial dimension of effectiveness. However, in relation to technical effectiveness it would be logical to expect the design of the management control system to play a more significant role.

The statistical findings pertaining to the relationship between effectiveness with regard to overall corporate performance and factors such as organizational characteristics, design features of the management control systems and implementation problems strongly corroborate the basic hypothesis. "Overall corporate performance" falls within the managerial dimension of effectiveness as it does not focus on cost or financial parameters of performance.

A major qualification which the researchers would like to emphasise is that corroboration of the basic hypothesis does not mean that the design of management control systems is wholly irrelevant. Such a contention is obviously invalid and meaningless. Rather, what appears to be appropriate is the concept of a minimum or "threshold" level of sophistication in the design of the management control system. If this threshold level of design is not present, then the management control system cannot possibly be effective along either the managerial or technical dimensions.

However, excellence in design beyond this threshold level does not, as evidenced by the statistical analysis, contribute to increased effectiveness along the managerial dimension.

The threshold level of sophistication in design does not appear to be very high. What seems essential is an appropriate identification of responsibility centres and a reporting system which focuses on timely provision of information on performance in terms of critical variables relating to individual responsibility centres, to the concerned level of management.

With regard to effectiveness along the technical dimension, the design of the management control system takes on considerably greater significance. As indicated in Table 4, the specification of cost of production in the budget, the existence of an overhead budget and the identity of the executive preparing the sales budget are features which influence effectiveness in relation the various "technical" parameters.

Implementation and Administration

The empirical findings, again perticularly those stemming from the interviews, indicate that it is meaningful and important to classify what this study has referred to as "implementation problems" into two categories, namely implementation problems and administration problems.

The distinction which is sought to be made by this classification is between problems which arise at the time of installation of

management control systems and problems which relate to ongoing management control systems. Both technical problems and behavioural and organizational problems arise in relation to both these categories. However, at the implementation stage, the behavioural and organizational problems are likely to be particularly severe as installation of a management control system naturally triggers the dysfunctional responses and attitudes that arise when major changes are introduced in an organization.

The behavioural problems that are encountered in an ongoing system - "administration problems" - are largely related to the nature of and the attitudes adopted during the review of actual versus expected performance.

Implementation problems as defined here are primarily "one-time" problems while administration problems would continually arise and demand appropriate and timely remediation - both technical and behavioural.

RESPONSES TO PROBLEMS

In the light of the analysis of the questionnaires, the researchers' findings from the interviews, and the researchers own understanding the following list of recommendations regarding minimization of implementation problems were developed.

Reporting Systems

In section E of the questionnaire, several of the problems essentially relate to the design of the management information or reporting system. These problems include:

1. Difficulties experienced in collecting data relating to:

   i. sales volume,
   ii. sales prices,
   iii. production volume, and
   iv. production cost.

2. Dependence on the financial accounting system for data and the consequent problems arising from:

   i. the fact that the financial accounting system is based on the requirements of Company Law and is not suited to the requirements for management control;

   ii. the fact that the financial accounting system demands a degree of accuracy which is not necessary for management control and consequently causes unnecessary delay.

3. Delays in data submission.

4. Co-ordination and consistency problems arising from data being provided by several different sources.

5. The time required to obtain data of adequate accuracy being excessive.

6. Delay in availability of data caused by the use of data of excessive accuracy.

7. The excessive time required to compile and process the the data in the form required for management reports.

The approaches to designing effective and efficient management information systems would be too lengthy to detail in this report. However, some particularly significant considerations which in the researchers' opinion are essential if the problemslisted above are to be avoided are as follows:

1. The distinction needs to be made between the timeliness and accuracy of data required for financial accounting and for management control.

2. The report should be tailored to the level of the executive receiving the report; with the focus being primarily on operating indicators of performance at the level of operating management, with more financial data provided for executive management and primarily financial with some environmental information for top management.

3. The key result areas or critical variables in the operations of each sub-unit of the organization should be identified, so that with limited information an overall view of performance can be obtained.

4. Executives should receive reports relating primarily if not solely to their areas of concern and information relating to other areas should be limited to what is necessary for efficient co-ordination.

5. The use of EDP or unit record equipment for shortening the time requirement for compiling and processing data may be found to be a useful investment.

6. The distinction between information for effective control along the two dimensions - managerial and technical - needs to be borne in mind. In case the focus is primarily on the managerial dimension then the requirement in terms of accuracy become even less important while timeliness gains added criticality.

Among the organizations interviewed, it was interesting to note that in all situations where executives were pleased with the effectiveness of the system, the management information system was particularly tailored to the organizational characteristics. In one large concern engaged in the heavy engineering industry a system of "modules" within each job was employed. Each module was treated as a separate job as the total job could take as long as three years to complete and for management control a shorter time period for reporting was thought to be essential. Furthermore, in this organization, accuracy only to the extent of lakhs of rupees was required in reports at the top management level.

In another organization, since production was found to be almost identical to sales, the focus of the management information system and the control system as a whole was essentially limited to the production function.

In a third organization, where control of labour cost was thought to be crucial, a very detailed system of booking not only the hours worked but also breaking up idle time into a variety of reasons were employed.

Reliability of Data

The problem of reliability of data was not one that the organizations interviewed found to be serious. The most commonly suggested reason for this was that the culture of the organization

precluded any manipulation of information. One executive mentioned that some problems with regard to booking of sales in the appropriate time periods had been experienced a year or two earlier but that the very severe management reaction when it was found out resulted in the abandonment of this practice in the organization.

The two most widely employed responses to this problem in addition to of course fostering the desired culture in the organization were:

i. careful analyses of trends, and

ii. the use of sample checks to verify the accuracy of the reports.

Changes in Budget Assumptions

The responses adopted by the organizations interviewed varied somewhat. The unanimous opinion of the executives in these organizations was that careful analyses should be made to distinguish between unavoidable, externally induced changes and controllable non-achievement of targets. In fact, the understanding was that in case of doubt, the decision should be that the executive responsible be held accountable for the shortcoming.

Three responses to highly fluctuating environments were noted. First, care was taken by certain organizations to ensure that the

assumptions were made as close to the budget period as possible so as to ensure that obsolesence of the assumptions was less likely to occur. Second, certain organizations employed rolling budgets which were for a one year time horizon but were reviewed on a quarterly or six monthly basis. Third an approach was adopted of allowing only major changes in assumptions to influence the budget and ignoring minor changes with the accompanying requirement that such minor changes should not be accepted as valid reasons for non-achievement of the budgeted performance.

Reporting Periods

As indicated by the statistical findings and substantiated by the interviews, the time period for which variances were developed was not much of a problem. Emphasis however needs to be placed on the appropriate time span of evaluation. In more than one organization the remark was made that when a variance occurred for a particular month with regard to certain aspects of performance no action was taken but if a trend emerged then management attention was focussed on this aspect. Also, it was pointed out that more importance should be given to the time period when evaluating the performance of executives. The higher the executive, it was suggested, the longer the appropriate time span for evaluating whether performance was upto the mark or not.

Clarity of Authority and Responsibilities

The importance of organizational structure was one aspect

which was highlighted by the study. To elaborate on theories of organization would be out of the scope of this report, but designers of management control systems should exercise extreme caution if asked to design management control systems for organizations where the structure is not rational or clearly defined and is likely to lead to otherwise avoidable dual responsibilities for variances.

Many of the organizations interviewed stated that dual responsibility was neither wholly avoidable nor an uncommon occurence but that as long as the organizational culture was one of taking remedial action rather than apportioning blame, such unavoidable duality of responsibility did not create unmanageable problems. Also, where remedial action could not be identified, the executive to whom the two or more departments responsible for the variance reported should (assisted by the "controller") appropriately take a decision regarding what is to be done.

Non-Acceptance of Standards

The most significant finding in relation to standards is the use of past performance for developing expected norms of performance. In this regard, the thrust should be one of setting a standard which is better than past average performance but

which at the same time has been achieved on a sufficient number of occasions in the past for it to appear reasonable and feasible to the executives and workers held responsible for its achievement. Statistical methods[18] have been developed for specifying standards along these lines and the use of these methods should greatly reduce the problem of non-acceptance of standards.

Attitude to Control

The next four problems essentially result from inappropriate attitudes on the part of operating management towards thecontrol system and the exercise of management control. In addition to developing the appropriate attitudes, specific technical responses to some of the problems can be employed.

In the situations where differences of opinion exist regarding the controllability of variances, the relative contribution approach to management reporting can be used[19].

With regard to differences between organizations' objectives and the objectives of the individual executives, here again, approaches have been developed which could minimize such differences[20].

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18 See: J. C. Camillus, "Performance Standards for Planning and Control: The Managerial Perspective," The Management Accountant, (December, 1974).

19 Raymond Marples, "Relative Contribution Approach to Management Reporting", NAA Bulletin, 1963.

20 S. K. Bhattacharyya,"Translating Organizational Objectives into Programme Targets and Operating Tasks", Economic & Political Weekly, Vol.VII, No.48, (November 25, 1972).

Essentially, the attempt is to ensure two way communication of:

i. top managements' expectations downwards, and

ii. operating managements' assessment of potential upwards;

and thus arrive at a mutually accepted understanding of desirable and attainable performance.

The third problem, namely of standards in the budget being set higher than reasonably attainable, would not arise if the approaches to setting standards are in keeping with the methods suggested earlier in the context of standards not being accepted by operational managers.

The fourth problem - that of the control system being viewed as overly restrictive - has no technical solution but is almost totally dependent on the culture which top management seeks to foster in the organization and on the organization's approach to the exercise of control. It must be borne in mind that in certain organizations it may very well be a conscious management decision to avoid high-risk alternatives or to minimize change and consequently the control system might bepurposively designed to ensure adherence to existing practice and to inhibit new modes of action on the part of lower-level executives.

Status of the Controller

The most important recommendation to be made in this context is that the controller should report to the chief line executive. In no organization studied in depth, where the system was effective, was any another reporting relationship encountered. Also, in those organizations where the controller did not report to the chief line executive, the management control system was always found to be perceived as less effective than desired.

In this context, the organizations interviewed were of the opinion that the controller should not possess any line authority. In addition to not possessing or utilising hierarchical authority, it was felt that the controller should consciously refrain from using his ready access to the chief executive as a source of derived authority. In fact, it was unanimously felt that the only authority the controller should exercise should be that stemming from his ability and willingness to assist line executives in analysing their own performance and arriving at appropriate remedial action.

Top Managements' Attitude to the Management Control Systems

The last two problems namely that of lack of provision of adequate resources by top management and top management not paying adequate attention to the reports generated are of crucial import.

While resources are obviously important, it must never be forgotten that even more important though less obvious is the fact that unless top management uses the management control system, such systems would be a futile investment in any organization. This point was repeatedly emphasised by executives in the organizations where in-depth interviews were conducted. In fact, with regard to effectiveness along the managerial dimension, the impression gathered in the course of the interviews was that even if the system was not optimally designed or provided with all the desirable resources, yet by using the outputs of such sub-optimal systems top management imparted to the control system an importance and a value in terms of effectiveness along the managerial dimension which even the better designed systems could not claim.

In terms of top management's use of a management control system, the most important aspect appears to be the approach to the review and follow-up exercise based on comparisons of actual and budgeted performance. This is corroborated by the statistical finding that the reasons for revising budgets are associated with the effectiveness of management control systems in relation to overall corporate performance.

The characteristics of effective review and follow-up identified by the researchers are listed below:

i. Performance evaluation should be based on budgeted versus actual performance, rather than on comparison with the performance of similar units.

ii. The budgeted performance should reflect available potential. To the extent that potential for achievement is difficult to determine, performance evaluation should also take into account the amount of managerial effort invested by executives responsible for variances from budgeted performance.

iii. Attention should be focused on continuing variances of a small magnitude and one-time variances of a large magnitude. Analyses of trends should therefore be given importance.

iv. Budgets should incorporate "action plans" which facilitate the review and follow-up exercise. These action plans should detail the managerial measures that are expected to result in the budgeted financial performance. Action plans should identify:

   a. specific management actions to be taken during the budget period;

   b. the executives responsible for taking the specified actions; and

   c. the deadlines by which the actions should be accomplished.

v. Contingency plans developed at time of preparing budgets make the review and follow-up exercise more effective.

vi. Budgets should be developed on the basis of assumptions that are formally stated and accepted by all concerned levels of management.

vii. The review and follow-up exercise should incorporate the monitoring of remedial actions decided upon earlier.

viii. The emphasis in the review and follow-up exercise should be on superiors and subordinates jointly and collaboratively determining needed remedial action rather than being an exercise in apportioning blame.

ix. To the extent that clear incompetence or erroneous judgment is not displayed, the executive responsible for the variance should himself select the most appropriate remedial measures from among those generated collaboratively by his superior and himself.

CONCLUSION

This research study perhaps raises as many issues as it resolves. The most important point that demands further research and analysis is the finding that there are two major and distinctly different types of objectives which a management control system can serve - the technical objectives and the managerial objectives.

With regard to the managerial dimension, it was quite evident following the research study that the sophistication of the design of the management control system plays a marginal role. Rather it is the use which management makes of the system which determines its effectiveness along this dimension. As long as a "threshold" level of sophistication in design exists, effectiveness along the managerial dimension is almost totally dependent on top management attitudes in general and the review and follow-up process in particular.

With regard to the second dimension of effectiveness, namely the technical dimension, it is apparent that the design of the management control system has a relatively major role to play. However, further analysis and research is needed if this hypothesis is to be fully corroborated.

A final reservation regarding the data employed in the statistical analyses in the study stems from the changing economic

conditions in the country. The key to technical effectiveness suggested by analysis of the available data seems to be the existence of detailed cost budgets. However, with the increasing importance which effective marketing is likely to gain in the emerging buyers market in the country, perhaps more sophisticated, technical considerations may need to be incorporated in the design of a management control system if effectiveness along the technical dimension is to be ensured.

At the cost of repetition, but nevertheless in view of the most interesting validation of the existing theory of control of managed or discretionary costs, the fact that the very existence of an overhead budget results in effective control of overheads bears mention again.

To conclude, designers of management control system need to be conscious of the existence of two major streams of objectives which a control system can serve, with the added understanding that the review and follow-up process coupled with top managements' use of the system are the primary keys to effectiveness along the managerial dimension, while the designers' skills may play a very much more significant and important role in relation to the dimension of technical effectiveness.

To conclude, designers and users of management control systems need to be aware:

i. that there are two distinct streams of objectives - "managerial" and "technical" - which a management control system can serve;

ii. that a rational organizational structure is an important pre-requisite for effectiveness of the management control system;

iii. that the absence of an efficient reporting system providing timely, managorial information relating to key result areas is often a cause of ineffectiveness, and

iv. that top management's use of the system, particularly as demonstrated in the review and follow-up exercise, is the primary determinenant of effectiveness.

ANNEXURE I

QUESTIONNAIRE EMPLOYED

INDIAN INSTITUTE OF MANAGEMENT, AHMEDABAD

QUESTIONNAIRE ON MANAGEMENT CONTROL SYSTEMS DESIGN AND IMPLEMENTATION

A. COMPANY CHARACTERISTICS

1. How many employees does your company have? _____

2. What activities are included in your company's operations? Please tick mark the boxes against the activities applicable.

   a. Mining or harvesting of raw materials ( )
   b. Refining or processing of bulk materials ( )
   c. Fabricating the components of finished products ( )
   d. Assembly of finished products ( )
   e. Distributing products to customers ( )
   f. Providing services to customers ( )

3. In how many difference locations are the products of your company produced or processed? (If your "product" is a set of services, please indicate the number of service centres.)

   a. At a single location ( )
   b. Two to three locations ( )
   c. Four to five locations ( )
   d. More than five locations ( )
   e. By others only (purely "distribution" company) ( )

4. How many "product lines" (i.e., a group of products which are considered as a single package for most management decisions) does your company produce?

   a. One product line ( )
   b. Two to three product lines ( )
   c. Four to five product lines ( )
   d. More than five product lines ( )

5. How many customers (approximately) _____

6. Please indicate the percentage of the 1971 sales revenue of your company from each of the following types of customers:

Type of customer and product	% of 1971 sales revenue
a. Government(capital goods)	_____
b. Government(consumables/services)	_____
c. Industrial (capital goods)	_____
d. Industrial (consumables/services)	_____
e. Consumer(durable goods)	_____
f. Consumer (consumables/services)	_____

7. Where on the following scales does your company fall?

a.

1	2	3	4	5
Very dependent on sub-contractors		As dependent on sub-contractors as most other companies that I know		Not at all dependent on sub-contractors

b.

5	4	3	2	1
Availability of raw materials is not a problem faced by the company		Availability of raw materials is as much of a problem as in most other companies that I know.		Availability of raw materials is a critical problem faced by the company.

c.

1	2	3	4	5
Imported raw material is critical to the company		As dependent on imported raw material as most other companies that I know		Imported raw material is unimportant to the company

8. Which of the following statements typifies the board of directors of the company?

a. Only the managing director is involved full time in the running of the company ( )
b. Two or three directors are involved full time in the running of the company ( )
c. An executive committee formed of several directors is involved full time in the running of the company ( )
d. The board of directors is formed primarily of full time executives of the company ( )

9. Please indicate the percentage equity that is held by foreign interests in your company

0% ( )
1-10% ( )
11-25% ( )
26-50% ( )
51-75% ( )
Above 75% ( )

B. OBJECTIVES

1. Are objectives developed for your company in the following terms before the start of a financial year? Please tick mark the boxes against the objectives which apply to your company.

   a. Profits (before or after tax) ( )
   b. Return on investment ( )
   c. Earnings (i.e., profit after tax) per share ( )
   d. Growth in sales over the previous year ( )
   e. Growth in market share over the previous year ( )
   f. None of the above ( )

2. How many months prior to the start of the financial year are these objectives decided upon? _____

3. Which of the following criteria do you consider when setting up these objectives for your company?

   a. Not applicable. No objectives are developed ( )
   b. Past performance of the company ( )
   c. Political, social, and economic environment ( )
   d. Likely actions and performance of competitors ( )
   e. Strengths and weaknesses of the company ( )
   f. The company's plans for capital projects ( )
   g. The company's manpower recruitment and training plan ( )

C. THE BUDGETING PROCESS

Note: If your company does not develop or employ budgets, please skip this section of the questionnaire and move on to Section D.

I. SALES BUDGET

1. Is your sales budget prepared on the following bases?

   a. Budgeted on a product line basis ( )
   b. Budgeted on a geographic region-wise basis ( )
   c. Budgeted only for the company as a whole ( )

2. Is the sales budget for the forthcoming budget year broken up into:

   a. Half-yearly periods? ( )
   b. Quarterly periods? ( )
   c. Monthly periods? ( )
   d. Not broken up into periods of less than a year ( )

3. Who prepares the sales budget?

   a. Sales manager (
   b. Sales manager jointly with staff (

c. Sales manager jointly with production ( )
d. Sales manager jointly with production and purchase ( )
e. Any other (Please specify)_____ ( )

4. Is the sales budget prepared by the above reviewed before acceptance, and if so by whom?

a. Not reviewed ( )
b. Reviewed by the sales director ( )
c. Reviewed by the sales director jointly with the controller/chief accountant ( )
d. Reviewed by the top management ( )
e. Reviewed by any other (Please specify)_____ ( )

5. Which of the following considerations are taken into account when developing the sales budget?

a. Projections of past sales ( )
b. Competition ( )
c. Econometric data ( )
d. Specific estimates of the likely demand from existing and potential customers ( )
e. Any other (Please specify)_____ ( )

II. PRODUCTION BUDGET

1. Do any of the following considerations explicitly influence the production budget?

a. Budgeted sales ( )
b. Inventory levels ( )
c. Availability of raw materials ( )
d. Availability of finance ( )

2. Which of the following, if any, are explicitly identified in the budget document?

a. Quantity of production ( )
b. Delivery schedules ( )
c. Quality of products ( )
d. Costs at which goods are to be produced ( )

3. Which of the following categories of costs are explicitly identified in the budget when specifying the costs of production?

a. Variable costs (i.e., costs which are proportionate to the level of production) ( )
b. Departmental costs (i.e., costs which do not vary with the level of production, but which are clearly related to a particular department or product line) ( )
c. Non-routine costs (i.e., costs which occur at specific points in time rather than continuously, such as special maintenance and spares) ( )

d. Fixed overhead (i.e., costs which are fixed and which are not directly reltable to a particular product line or department, but are applicable to several) ( )

4. Is the "contribution" or "margin" identified for individual products or product lines?

a. Not identified ( )
b. Identified for product lines ( )
c. Identified for individual products ( )

5. Are "purchase price variances" (difference between estimated purchase price and actual purchase price) calculated and allocated to the purchase department?

a. Yes ( )
b. No. ( )
c. Calculated but not allocated to the purchase department ( )

6. Are "standards" for the following items identified in the budget document or elsewhere?

a. Materials consumption ( )
b. Planned yield/waste ( )
c. Any other non-financial standards(Please specify)_____ ( )

7. Who develops the production budget?

a. The production manager ( )
b. The production manager jointly with department heads reporting to him ( )
c. The production manager jointly with sales executives ( )
d. The production manager jointly with sales and purchase executives ( )

8. Who reviews the production budget?

a. Production director ( )
b. Production director and controller/chief accountant ( )
c. Controller/chief accountant ( )
d. Top management ( )
e. Any other (Please specify)_____ ( )

9. If the cumulative production schedules indicate that the actual production will not be the same as the budgeted production, is the budget

a. Altered (i.e., revised) ( )
b. Retained in its original form ( )

10. Is the production budget for the forthcoming budget year broken up into

a. Half-yearly periods? ( )
b. Quarterly periods? ( )
c. Monthly periods? ( )
d. Not broken up into periods of less than a year ( )

III. OVERHEAD BUDGET

1. Is there an overhead budget for company-wide common services(such as Accounting, Legal and Personnel) which are not related to production/ sales levels?

a. Yes ( )
b. No ( )

Note: If your answer is "No" please skip the remaining questions in this part and move on to the next part (i.e., Part IV).

2. Are these overheads separated into any of the following categories?

a. Discretionary costs(costs like advertisement that are periodically, usually annually, reviewed by top management, and whose magnitude is a judgmental decision on the part of top management) ( )
b. Committed costs (costs like depreciation which are "sunk" and are not amenable to change by management) ( )
c. Neither of the above

3. Who develops this "overhead budget"?

a. Controller/chief accountant ( )
b. Heads of sales, production, and service departments jointly ( )
c. Any other (Please specify)_____ ( )

4. Is this overhead budget reviewed, and if so by whom?

a. Not reviewed ( )
b. Reviewed by the controller/chief accountant ( )
c. Reviewed by the top management ( )
d. Any other (Please specify)_____ ( )

IV. COMPANY-WIDE BUDGET

1. Is profit(before or after tax) budgeted for the company as a whole?

a. Yes ( )
b. No ( )

2. Into what periods is the annual cash flow statement broken up?

a. Not applicable. No annual cash flow statement is developed. ( )
b. The annual cash flow statement is not broken into shorter time periods ( )
c. The annual cash-flow statement is broken up into half yearly periods ( )

d. Into quarterly periods ( )
e. Into monthly periods ( )
f. Any other (Please specify)_____ ( )

3. Which of the following considerations are explicitly taken into account when budgeting working capital requirements?

a. Not applicable, working capital is not explicitly budgeted ( )
b. Credit terms given and level of accounts receivable ( )
c. Inventory levels ( )
d. Marketable securities, debentures, government securities, etc. ( )
e. Credit terms received and level of accounts payable ( )
f. Bank facilities available, including secured loans ( )
g. Dividend requirements ( )
h. None of the above ( )

4. Who reviews the company-wide budget before it is finalized?

a. Not reviewed ( )
b. Board of directors ( )
c. Managing director ( )
d. Any other (Please specify)_____ ( )

5. Following the review of the company-wide budget, which of the following actions take place?

a. Not applicable. No review is conducted ( )
b. Revisions are suggested by the reviewers, but need not be accepted ( )
c. The reviewers decide unilaterally the revisions needed ( )

V. BUDGETING (GENERAL)

1. To what extent do managers who have to implement the budget participate in the development of the budget?

a. The budget is finalized without necessarily consulting the managers who are to implement it ( )
b. The budget is finalized only after obtaining the opinions of the managers who will implement it ( )
c. No budget is finalized without the willing acceptance of the managers who are to implement it ( )

2. Is there a formal understanding that the annual budget will be reviewed with the intent to revise it during the budget year, and if so at what frequency are such reviews expected to be conducted?

a. No such revisions are planned for beforehand ( )
b. A budget review with the intent to revise it, if necessary, is scheduled six months after the annual budget comes into effect ( )
c. Reviews with the intent to revise the budget are scheduled every quarter ( )

3. Are unscheduled budget revisions carried out for any of the following reasons?

   a. No. The annual budget is not revised during the budget year under any circumstances ( )
   b. The budget is revised if the actual performance varies over a certain percentage from budgeted performance ( )
   c. The budget is not revised if actual performance varies from budgeted performance unless it is due to drastic changes in the economic, social, and political environment or other major business developments clearly beyond management control ( )

4. How many months ahead of the budget year do the following events occur?

Event	No.of months before the budget year that the event takes place
a. Initiation of the budget development	
b. Review prior to finalization of the "company-wide" budget	
c. Finalization of the "company-wide" budget	

5. Are budgets stated separately for any of the following?

   a. Different geographic regions ( )
   b. Different factories within the company ( )
   c. Departments within the factories ( )
   d. "Service" departments, such as accounting, legal, and finance ( )
   e. None of the above, only a company-wide budget ( )

D. THE CONTROL SYSTEM AND PROCESS

1. Please fill in the number of reports each of the specified levels of management get at various frequencies.

Level of management	Frequency					
	Daily	Weekly	Monthly	Quarterly	Half-yearly	Total
Top management(board/ managing director)						
Executive management (mananaging director/ functional directors)						
Operational management (departmental heads)						

2. Against each of the items in rows 1 to 7, please put a tick mark in the sub-columns(a and b, which describe types of reports) to indicate the type of report, if any, that goes to the levels of management described in columns I to III.

Item	Top Management I		Executive Management II		Operational Management III	
	Absolute (i.e., actuals only)	Expected vs. actual (i.e., variance)	Absolute	Expected vs. actual	Absolute	Expected vs. actual
	a	b	a	b	a	b
1. Sales product line-wise						
2. Variable costs of production						
3. Product line contribution						
4. Related overhead (activity-wise or product-wise)						
5. Service department overheads (company-wide)						
6. Profit (before or after tax)						
7. Quality, yield, efficiency, capacity utilization, and similar non-financial items						

3. Please state the title of the executive administering the management control systems.

_____

4. To which of the following does he report?

a. Chief executive (president or managing director) ( )
b. Finance director ( )
c. Chief accountant ( )
d. Any other (Please specify)_____ ( )

5. Are formal reviews of the company-wide actual versus expected performance conducted during the budget year?

a. No. No formal reviews are conducted ( )
b. A review is conducted six months after the budget year starts ( )
c. Reviews are conducted every quarter ( )
d. Reviews are conducted monthly ( )

6. Please indicate within how many days, after the end of each period (within the budget year) for which reports are generated, are the following reports usually ready?

Reports	Time taken to prepare reports						
	Within 5 days after the completion of the period	Within 10 days after the completion of the period	Within 15 days after the completion of the period	Within 1 month after the completion of the period	within 1½ months after the completion of the period	Within 2 months after the completion of the period	Usually after more than two months
Sales							
Production							
Overhead							
Profits							
Non-financial indicators, including environmental information							

7. How are these reports prepared?

a. Manually ( )
b. With punched cards ( )
c. With electronic data processing equipment ( )
d. Any other(Please specify)_____ ( )

8. Please indicate which of the following actions are taken, if necessary, after a review of performance for a period.

a. Not applicable. No review takes place ( )
b. No action is usually taken or recommended ( )
c. Pricing policies or specific product prices are modified ( )
d. New sales promotion activities are undertaken ( )
e. Redeployment of resources, such as men and money ( )
f. Any other (Please specify)_____ ( )

9. Are executives evaluated and suitably rewarded, or are they pulled up, on the basis of the reports comparing actual performance to budgeted performance?

a. Not applicable. No such reports are developed ( )
b. No ( )
c. Yes ( )

10. Please indicate the number of the two categories of personnel specified, who are engaged primarily in administering the management control system.

	Number
Professional staff	
Clerical staff	
Total	

11. How much of the chief executive's time is spent on the activities described below?

a. Percentage of time spent by the chief executive on setting up the budget(e.g.,if he spends 30 days, the figure to be filled in would be 10%) _____%
b. Percentage of time spent by the chief executive in performance evaluation based on the budget _____%

12. Does your cost accounting system employ "standard costs"?

a. Yes ( )
b. No ( )

13. On what basis were these standard costs developed?

a. Not applicable. Standard costs have not been developed ( )
b. Industrial engineering based analysis ( )
c. Past performance ( )
d. Any other (Please specify)_____ ( )

14. Is the concept of "responsibility centres" employed in your company? (You may tick mark both (a) and (b) if both hold true.)

a. Cost centres(i.e., a distinct group of operations within a department or a department in the charge of a specified manager who is responsible for holding costs within budgeted limits) are employed( )
b. Profit centres(i.e., a division or subsidiary unit in the charge of a specified manager who is held responsible for meeting profit objectives) are employed ( )
c. The responsibility centre concept is not employed ( )

15. How are intra-company transfers of products between responsibility centres accounted for?

a. Not applicable ( )
b. The transfer price is based on the market value of the product ( )
c. The transfer price is based on a standard cost plus a specified mark-up ( )
d. The transfer price is negotiated by the managers of the concerned responsibility centres ( )
e. Any other (Please specify)_____ ( )

16. Please indicate the three most important non-financial indicators of performance reviewed by your chief executive.

a. Not applicable. Only financial indicators of performance, such as profits and sales are reviewed ( )
b. The three most important non-financial indicators of performance(such as customers' complaints and number of unplanned production stoppages) are:

I.
II.
III.

E. PROBLEMS EXPERIENCED.

1. Please indicate the degree of difficulty experienced in collecting data relating to the items specified.

a. Sales volume

1	2	3	4	5
Difficult to obtain.Cause of considerable problems in administering the control system		Same degree of difficulty as experienced in most other companies I know		No problem experienced in collecting these data

b. Sales price

5	4	3	2	1
No problem experienced in collecting the data		Same degree of difficulty as experienced in most other companies I know.		Difficult to obtain. Cause of considerable problems in administering the control system

c. Production volume

1	2	3	4	5
Difficult to obtain. Cause of considerable problems in administering the control system.		Same degree of difficulty as experienced in most other companies I know.		No problem experienced in collecting these data

c. Production costs

5	4	3	2	1
No problem experienced in collecting the data		Same degree of difficulty as experienced in most other companies I know.		Difficult to obtain. Cause of considerable problems in administering the control system

2. Does the financial accounting system impede the control system for any of the following reasons? Please indicate the degree of the problem on the adjacent scale.

a. The financial accounting practice is based on company law practices not suited to the requirements of the control system (e.g., no bookings are made till bills are received)

1	2	3	4	5
Serious problem		As much of a problem as in most other companies		No problem

b. The financial accounting practice demands a degree of accuracy which is not necessary for control and consequently causes unnecessary delay in developing control reports.

5	4	3	2	1
No problem		As much of a problem as in most other companies		Serious problem

3. Please indicate the degree to which each of the following factors impede the effective implementation of the management control system.

a. Delays in data submission

1	2	3	4	5
Serious problem		As much of a problem as in other companies		No problem

b. Lack of reliability of data because executives whose performance is to be evaluated on the data are also responsible for developing the data.

5	4	3	2	1
No problem		As much of a problem as in other companies		Serious problem

c. Data is provided by several different sources which causes co-ordination and consistency problems.

1	2	3	4	5
Serious problem		As much of a problem as in other companies		No problem

d. The time required to obtain data of adequate accuracy is excessive

5	4	3	2	1
No problem		As much of a problem as in other companies		Serious problem

e. Delay in availability vaused due to the use of data of excessive accuracy

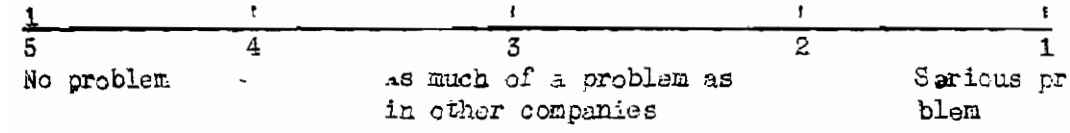
1	2	3	4	5
Serious problem		As much of a problem as in other companies		No problem

f. The time required to compile and process the data into the form required for the reports is excessive

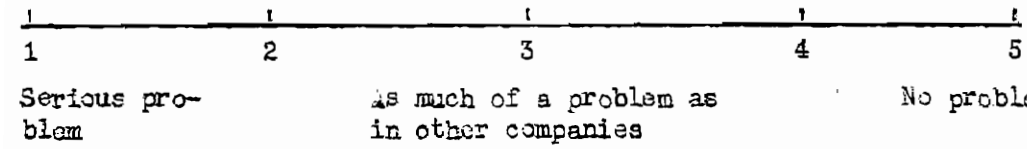
5	4	3	2	1
No problem		As much of a problem as in other companies		Serious problem

g. Changes from the assumptions made at the budget development time relating to sales volume, prices, raw material consumption, pro-

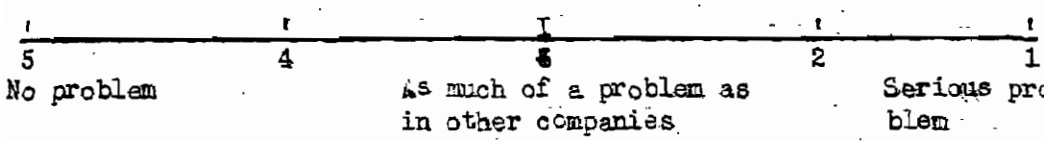
j. The responsibility of variances is sometimes shared by more than one executive



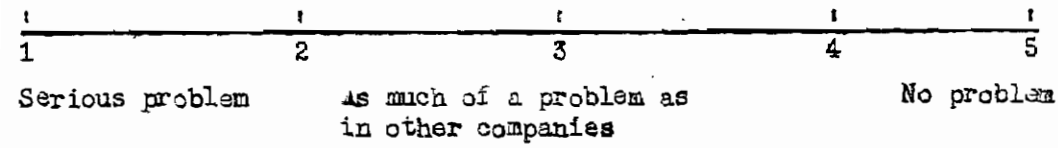
k. The standards set in the budget are not accepted by operational management



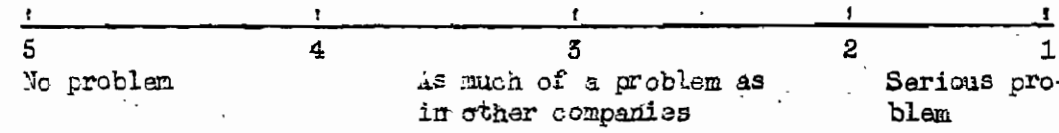
l. Differences of opinion exist regarding the controllability(at the concerned level of management) of the variances



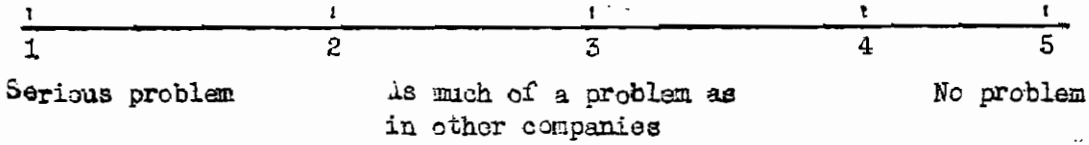
m. Differences exist between the company's objectives of individual executives



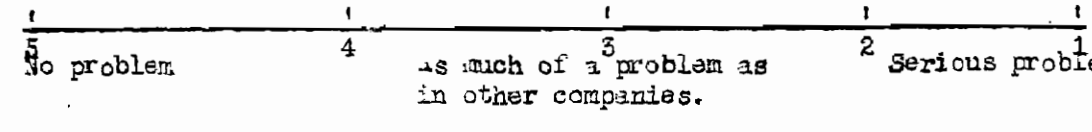
n. The standards in the budget are consciously set at a higher level than are reasonably attainable



o. Executives resent the control system and view it as a curb on their innovative ideas, particularly when these ideas take a long time for fruition



p. The status of the administrator of the control system is inadequate



q. Top management does not provide adequate resources to effectively implement the control system

1	2	3	4	5
Serious problem		As much of a problem as in other companies		No problem

r. Top management does not pay adequate attention to the reports generated by the control system, nor does it use these reports as a basis for initiating remedial action

5	4	3	2	1
No problem		As much of a problem as in other companies		Serious problem

4. Please indicate the frequency with which variances, which are the responsibility of both the functional departments specified below, occur.

a. The Production and Purchase Departments (e.g., different quality substitutes for the raw material originally specified)

1	2	3	4	5
Very frequently		As often as in most other companies		Rarely or not at all

b. The Production and Personnel Departments(e.g.,properly trained operators are not available)

5	4	3	2	1
Rarely or not at all		As often as in most other companies		Very frequently

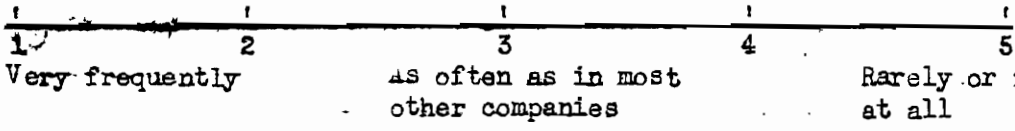
c. The Production and Maintenance Departments(e.g.,loss in production due to preventive or other maintenance)

1	2	3	4	5
Very frequently		As often as in most other companies		Rarely or not at all

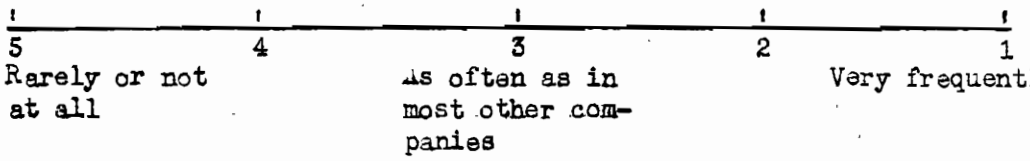
d. The Production and Sales Departments(e.g.,sales indents not being of the product-mix specified in the budget)

5	4	3	2	1
Rarely or not at all		As often as in most other companies		Very frequently

e. The Sales and Personnel Departments



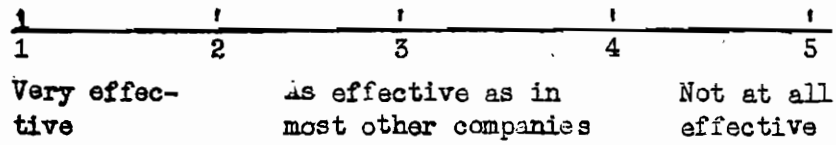
f. The Sales and the Finance Departments (e.g., promotional activities are not provided)



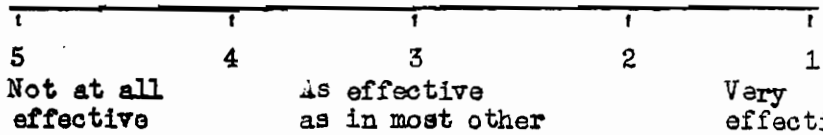
F. EFFECTIVENESS

1. On the scales given below please indicate your understanding of top management's assessment of the effectiveness of the control system with regard to the items mentioned alongside the scales.

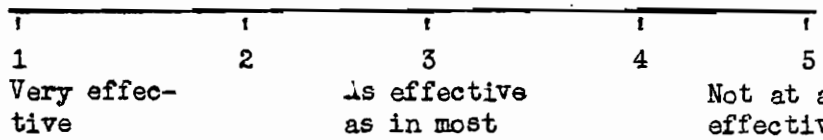
a. Production



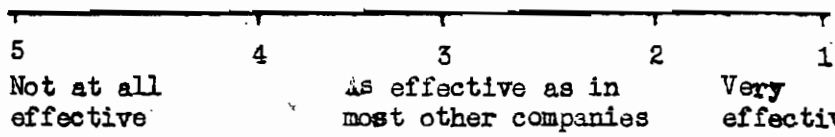
b. Sales



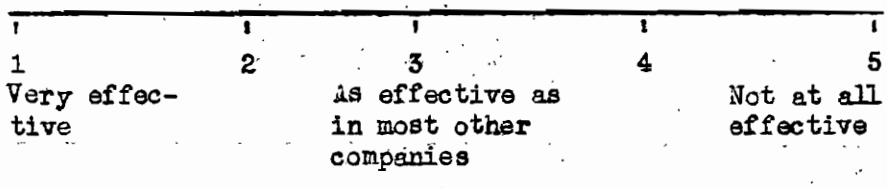
c. Overhead



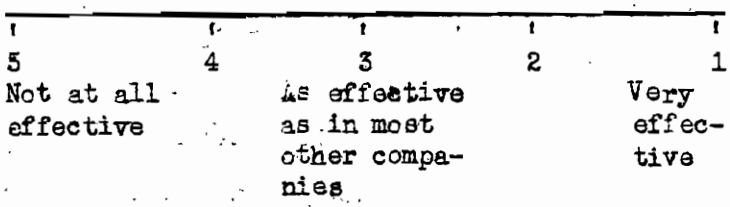
d. Costs



e. Profit



f. Overall corporate performance



ANNEXURE II

FREQUENCY DISTRIBUTION OF VARIABLES IN THE COMPUTERIZED DATA BANK

(Obtained from Questionnaire Data)

FREQUENCY DISTRIBUTIONS OF VARIABLES IN THE COMPUTERIZED DATA BANK ON MANAGEMENT CONTROL SYSTEMS.

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
Nil	001	Questionnaire number			
		A. COMPANY CHARACTERISTICS			
A.1	002	Number of employees			
		500 or less	7	7.95	8.43
		501 to 1000	8	9.09	9.64
		1001 to 3000	29	32.95	34.94
		3001 to 5000	14	15.91	16.87
		Over 5000	25	28.41	30.12
		No response	5	5.68	
A.2	003	Extent of vertical integration			
		Only 1 activity	30	34.09	34.09
		2 activities	22	25.00	25.00
		3 activities	17	19.32	19.32
		4 activities	15	17.05	17.05
		5 activities	2	2.27	2.27
		6 activities	2	2.27	2.27
		No response	0	0	
A.3	004	Number of production locations			
		Only 1 location	36	40.91	41.38
		2 to 3 locations	20	22.73	22.99
		4 to 5 locations	11	12.50	12.64
		More than 5 locations	18	20.45	20.69
		No production activity	2	2.27	2.30
		No response	1	1.14	
A.4	005	Number of product lines			
		1 product line	14	15.91	17.07
		2 to 3 product lines	23	26.14	28.04
		4 to 5 product lines	10	11.36	12.20
		More than 6 product lines	35	39.77	42.68
		No response	6	6.82	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
A.5	006	Number of customers			
		100 or less	12	13.64	16.67
		101 to 500	9	10.23	12.50
		501 to 3000	21	23.86	29.17
		3001 to 10,000	15	17.05	20.83
		Over 10,000	15	17.05	20.83
		No response	16	18.18	
A.6	007	Number of different types of customers			
		Only 1 type (Govt./Industrial/Consumer)	18	20.45	25.00
		2 types	29	32.95	40.28
		3 types	25	28.41	34.72
		No response	16	18.18	
A.6	008	Primary type of customer			
		More than 75% to Govt.	0	0	0
		More than 75% of sales to industry	19	21.59	26.39
		More than 75% of sales to consumers	28	31.82	38.89
		No primary customer	25	28.41	34.72
		No response	16	18.18	
A.6	009	Primary type of product			
		More than 75% of the products are capital/durable goods	15	17.05	21.13
		More than 75% of products are consumables	49	55.68	69.01
		No primary product	7	7.96	9.86
		No response	17	19.32	
A.7.a	010	Dependence on sub contracts			
		Scale with 1 = very dependent	4	4.55	4.82
		2 =	8	9.09	9.64
		3 = average	15	17.05	18.07
		4 =	22	25.00	26.50
		5 = Not at all dependent	34	38.64	40.96
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
A.7.b.	011	Availability of raw materials			
		Scale with 1 = critical problems	17	19.32	20.48
		2 =	9	10.23	10.84
		3 = average	39	44.32	46.99
		4 =	8	9.09	9.64
		5 = no problem	10	11.36	12.04
		and no response	5	5.68	
A.7.c.	012	Dependence on <u>imported</u> raw materials			
		Scale with 1 = critical	26	29.55	31.71
		2 =	6	6.82	7.32
		3 = average	24	27.27	29.27
		4 =	9	10.23	10.98
		5 = unimportant	17	19.32	20.73
		and no response	6	6.82	
A.8	013	Involvement of Board of Directors			
		Only Managing Director is involved	34	38.64	40.48
		2-3 directors involved fulltime	31	35.23	36.90
		Executive Committee of several directors involved fulltime	11	12.50	13.09
		Board is comprised primarily of full time employees	8	9.09	9.52
		No response	4	4.55	
A.9	014	Percentage equity held by foreign interests			
		0%	33	37.50	38.82
		1% - 10%	5	5.68	5.88
		11% - 25%	6	6.82	7.05
		26% - 50%	18	20.45	21.17
		51% - 75%	14	15.91	14.47
		Over 75%	9	10.23	10.59
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
		8. OBJECTIVES			
8.1	015	Parameters of objectives - comprehensive			
		No objective	2	2.27	2.30
		1 objective	22	25.00	25.29
		2 objectives	21	23.86	24.14
		3 objectives	20	22.73	22.99
		4 objectives	14	15.91	16.09
		5 objectives	8	9.09	9.20
		No response	1	1.14	
8.1	016	Selected parameters of objectives			
		No objectives	2	2.27	2.47
		Profits	16	18.18	19.75
		ROI	1	1.14	1.23
		Profits and ROI	3	3.41	3.70
		Profits, ROI and others	59	67.05	72.84
		No response	7	7.95	
8.2	017	Number of months prior to start of financial year, that objectives are decided upon			
		Less than 1 month	4	4.55	4.88
		From 1 to 3 months	44	50.00	53.66
		More than 3 to 6 months	31	35.27	37.80
		More than 6 to 9 months	1	1.14	1.22
		More than 9 months	2	2.27	2.44
		No response	6	6.82	
8.3	018	Criteria employed in formulating objectives			
		Not applicable, no objectives are developed	1	1.14	1.15
		Only 1 of the criteria is considered	11	12.50	12.64
		2 of the criteria are considered	11	12.50	12.64
		3 of the criteria are considered	17	19.32	19.54
		4 of the criteria are considered	16	18.18	18.39
		5 of the criteria are considered	16	18.18	18.39
		All 6 criteria are considered	15	17.05	17.24
		No response	1	1.14	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
B.3	019	Past performance as a criterion based on which objectives are developed			
		Employed as a criterion	83	94.32	94.32
		Not employed as a criterion	4	4.55	4.55
		Not applicable	1	1.14	1.14
B.3	020	Political, social and economic environment as a criterion			
		Employed as a criterion	53	60.23	60.23
		Not employed as a criterion	34	38.44	38.44
		Not applicable	1	1.14	1.14
B.3	021	Competitive trends as a criterion			
		Employed as a criterion	40	45.45	45.45
		Not employed as a criterion	47	53.41	53.41
		Not applicable	1	1.14	1.14
B.3	022	Strengths and weaknesses of the company as criterion			
		Employed as a criterion	57	64.77	64.77
		Not employed as a criterion	30	34.09	34.09
		Not applicable	1	1.14	1.14
B.3	023	Plans for capital projects as a criterion			
		Employed as a criterion	55	62.50	62.50
		Not employed as a criterion	32	36.36	36.36
		Not applicable	1	1.14	1.14
B.3	024	Manpower plans as a criterion			
		Employed as a criterion	30	34.09	34.09
		Not employed as a criterion	51	64.78	64.78
		Not applicable	1	1.14	1.14

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
		C. THE BUDGETING PROCESS			
		I Sales Budget			
C.I.1	025	Basis on which the sales budget is prepared			
		Only for the company as a whole	6	6.82	7.14
		Geographic region wise	6	6.82	7.14
		Product line wise	36	40.91	42.86
		Both geographic and product-line wise	36	40.91	42.86
		No response	4	4.55	
C.I.2	026	Periods into which the sales budget is broken up			
		Not broken up into periods less than a year	14	15.91	16.87
		Half-yearly periods	0	0	0
		Quarterly periods	21	23.86	25.30
		Monthly periods	48	54.55	57.83
		No response	5	5.68	
C.I.3	027	Who prepares the sales budget			
		Sales manager	2	2.27	2.38
		Sales manager jointly with staff	19	21.59	22.62
		Sales manager jointly with prodn.	21	23.86	25.00
		Sales manager jointly with prodn. and purchase	23	26.14	27.38
		Other	19	21.59	22.62
		No response	4	4.55	
C.I.4	028	By whom the sales budget is reviewed before acceptance			
		Not reviewed	2	2.27	2.40
		Reviewed by Sales Director	2	2.27	2.40
		Reviewed by Sales Director and Controller/Chief Accountant	5	5.68	6.02
		Reviewed bytop management	57	64.77	68.67
		Reviewed by Sales Director and top Management	7	7.95	8.43
		Other	10	11.36	12.04
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.I.5	029	Considerations taken into account when developing the sales budget			
		No considerations taken into account	0	0	0
		1 considerations	15	17.05	18.07
		2 considerations	22	25.00	26.50
		3 considerations	26	29.55	31.32
		4 considerations	17	19.32	20.48
		5 considerations	3	3.41	3.61
		No response	5	5.68	
C.I.5	030	Projections of past sales as a basis for the sales budget			
		Not considered	17	19.32	20.48
		Considered	66	75.00	79.51
		No response	5	5.68	
C.I.5	031	Competition as a basis			
		Not considered	37	42.05	44.58
		Considered	46	52.27	55.42
		No response	5	5.68	
C.I.5	032	Econometric data as a basis			
		Not considered	63	71.59	75.90
		Considered	20	22.73	24.09
		No response	5	5.68	
C.I.5	033	Specific estimates of likely demands from existing and potential customers as a basis			
		Not considered	17	19.32	20.48
		Considered	66	75.00	75.52
		No response	5	5.68	
C.I.5	034	Other bases			
		Not considered	60	68.18	72.29
		Considered	23	26.14	27.71
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
		II Production Budget			
C.II.1	035	Consideration influencing the production budget			
		No considerations taken into account	2	2.27	2.67
		1 consideration	15	17.05	20.00
		2 considerations	22	25.00	29.33
		3 considerations	29	32.95	38.67
		4 considerations	7	7.95	9.33
		No response	13	14.77	
C.II.1	036	Budgeted sales as a factor in influencing the production budget			
		Not considered	7	7.95	9.21
		Considered	69	78.41	90.79
		No response	12	13.64	
C.II.1	037	Inventory levels as a factor			
		Not considered	36	40.91	47.37
		Considered	40	45.45	52.63
		No response	12	13.64	
C.II.1	038	Availability of raw materials as a factor			
		Not considered	27	30.68	35.52
		Considered	49	55.68	64.47
		No response	12	13.64	
C.II.1	039	Availability of finance as a factor			
		Not considered	60	68.18	78.94
		Considered	16	18.18	21.05
		No response	12	13.64	
C.II.2	040	Quantity of production as an item in the budget document			
		Not included	2	2.27	2.56
		Explicitly identified	76	86.36	97.43
		No response	10	11.36	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.II.2	041	Delivery schedules as an item			
		Not included	57	64.77	73.07
		Explicitly identified	21	23.86	26.92
		No response	10	11.36	
C.II.2	042	Quality of products as an item			
		Not included	54	61.36	69.23
		Explicitly identified	24	27.27	30.77
		No response	10	11.36	
C.II.2	043	Costs at which goods are to be produced as an item			
		Not included	24	27.27	30.77
		Explicitly identified	54	61.36	69.23
		No response	10	11.36	
C.II.3	044	Variable costs as a category when specifying the costs of production			
		Not employed	6	6.82	7.89
		Employed	70	79.55	92.11
		No response	12	13.64	
C.II.3	045	Departmental costs as a category			
		Not employed	22	25.00	28.95
		Employed	54	61.36	71.05
		No response	12	13.64	
C.II.3	046	Non-routine costs as a category			
		Not employed	32	36.36	42.11
		Employed	44	50.00	57.89
		No response	12	13.64	
C.II.3	047	Fixed overhead as a category			
		Not employed	9	10.23	11.84
		Employed	67	76.14	88.16
		No response	12	13.64	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.II.4	048	"Contribution" or "margin" for products or product lines			
		Not identified	8	9.09	10.53
		Identified for product lines	22	25.00	28.95
		Identified for individual product	46	52.27	60.53
		No response	12	13.64	
C.II.5	049	Development of "purchase price variances"			
		Not developed	25	28.41	32.47
		Developed	13	14.77	16.89
		Developed but not allocated to the purchase department	39	44.32	50.65
		No response	11	12.50	
C.II.6	050	Identification of "standards", in production budget, for materials consumption			
		Not identified	6	6.82	7.79
		Identified	71	80.68	92.21
		No response	11	12.50	
C.II.6	051	"Standards" for planned yield			
		Not identified	19	21.59	24.68
		Identified	58	65.91	75.32
		No response	11	12.50	
C.II.6	052	Other non financial"standards"			
		Not identified	53	60.23	68.83
		Identified	24	27.27	31.17
		No response	11	12.50	
C.II.7	053	Who develops the production budget			
		Production Manager	6	6.82	8.11
		Production manager jointly with department heads reporting to him	25	28.41	33.78
		Production manager jointly with sales executives	17	19.32	22.98
		Production manager jointly with sales and purchase executive	26	29.55	35.14
		No response	14	15.91	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.II.8	054	Who reviews the production budget			
		Not reviewed	0	0	0
		Production director	3	3.41	3.89
		Production director and controller/ chief accountant	4	4.55	5.19
		Controller/Chief Accountant	2	2.27	2.59
		Top management	55	62.50	71.43
		Other	13	14.77	16.89
		No response	11	12.50	
C.II.9	055	Revision if actual production is out of line with budgeted production			
		Budget is revised	53	60.23	67.95
		Budget is not revised	25	28.41	32.05
		No response	10	11.36	
C.II.10	056	Periods into which the production budget is broken up			
		Not broken up into periods less than a year	10	11.36	12.82
		Half-yearly periods	2	2.27	2.57
		Quarterly periods	15	17.05	19.23
		Monthly periods	51	57.95	65.39
		No response	10	11.36	
		III Overhead Budget			
C.III.1	057	Existence of an overhead budget			
		Does not exist	6	6.82	7.32
		Exists	76	86.36	92.68
		No response	6	6.82	
C.III.2	058	Categories into which overhead costs are separated			
		No classification	9	10.23	12.16
		Discretionary costs	6	6.82	8.11
		Committed costs	4	4.55	5.41
		Both discretionary and committed costs	55	62.50	74.32
		No response	14	15.91	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.III.3	059	Who develops the overhead budget			
		Controller/Chief Accountant	24	27.27	31.17
		Head of line and staff departments jointly	38	43.18	49.34
		Other	15	17.05	19.48
		No response	11	12.50	
C.III.4	060	Whether the overhead budget is reviewed and by whom			
		Not reviewed	2	2.27	2.63
		Reviewed by Controller/Chief Accountant	8	9.09	10.53
		Reviewed by top management	58	65.91	76.32
		Reviewed by other	8	9.09	10.53
		No response	12	13.64	
		IV. Company-wide Budget			
C.IV.1	061	Whether PAT/PBT is budgeted for the company as a whole			
		No	2	2.27	2.38
		Yes	82	93.18	97.62
		No response	4	4.55	
C.IV.2	062	Periods into which the annual cash flow statement is broken up			
		Not applicable	3	3.41	3.53
		Only annual cash flows	8	9.09	9.41
		Half-yearly periods	3	3.41	3.53
		Quarterly periods	11	12.50	12.94
		Monthly periods	55	62.50	64.71
		Other	5	5.68	5.88
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.IV.3	063	Considerations taken into account when budgeting working capital			
		Not applicable	7	7.95	8.33
		None of the considerations	1	1.14	1.19
		1 of the considerations	3	3.41	3.57
		2 of the considerations	3	3.41	3.57
		3 of the considerations	10	11.36	11.90
		4 of the considerations	19	21.59	22.62
		5 of the considerations	37	42.05	44.05
		6 of the considerations	4	4.55	4.76
		No response	4	4.55	
C.IV.3	064	Credit terms given and level of A/c's receivable as a consideration			
		Not taken into account	16	18.18	19.05
		Taken into account	68	77.27	80.95
		No response	4	4.55	
C.IV.3	065	Inventory levels as a consideration			
		Not taken into account	11	12.50	13.09
		Taken into account	73	82.95	86.90
		No response	4	4.55	
C.IV.3	066	Marketable securities, debentures, government securities etc. as a consideration			
		Not taken into account	76	86.36	90.48
		Taken into account	8	9.09	9.52
		No response	4	4.55	
C.IV.3	067	Credit terms received and level of accounts payable as a consideration			
		Not taken into account	21	23.86	25.00
		Taken into account	63	71.59	75.00
		No response	4	4.55	
C.IV.3	068	Bank facilities available, including secured loans as a consideration			
		Not taken into account	19	21.59	22.62
		Taken into account	65	73.86	77.38
		No response	4	4.55	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.IV.3	069	Dividend requirements as a consideration			
		Not taken into account	37	42.05	44.04
		Taken into account	47	53.41	55.96
		No response	4	4.55	
C.IV.4	070	Whether the company-wide budget is reviewed -and if so by whom			
		Not reviewed	0	0	0
		Board of Directors	28	31.82	33.73
		Managing Director	30	34.09	36.14
		Other	25	28.41	30.12
		No response	5	5.69	
C.IV.5	071	Action following review of budget			
		Not applicable	1	1.14	1.23
		Reasons are suggested	38	43.18	46.91
		Revisions are unilaterally decided	42	47.73	51.85
		No response	7	7.95	
		V. Budgeting (General)			
C.V.1	072	Extent of participation in budget development			
		Budget may be finalized without consultation	3	3.41	3.53
		Budget finalized only after obtaining opinions of implementing managers	53	60.23	62.35
		Budget finalized only after mutual agreement	29	32.95	34.12
		No response	3	3.41	
C.V.2	073	Frequency of reviews with intent to revise the budget			
		No such planned revisions	32	36.36	37.65
		Half-yearly review	37	43.05	43.53
		Quarterly reviews	16	18.18	18.82
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.V.3	074	Reasons for budget revisions			
		Budget is never revised	21	23.86	25.61
		Revised if actual performance deviates more than a specified percentage from expected performance	19	21.59	23.17
		Revised only if there are drastic changes beyond management's control	42	47.73	51.22
		No response	6	6.82	
C.V.4a	075	No. of months ahead of the budget year that budget development is initiated			
		Less than 1 month	0	0	0
		From 1 to 3 months	30	34.09	37.50
		More than 3 to 6 months	40	45.45	50.00
		More than 6 to 9 months	7	7.95	8.75
		More than 9 months	3	3.41	3.75
		No response	8	9.09	
C.V.4b	076	No. of months ahead that review prior to finalization of the "Company-wide" budget is held			
		Less than 1 month	6	6.82	7.41
		From 1 to 3 months	51	57.95	62.96
		More than 3 to 6 months	17	19.32	20.90
		More than 6 to 9 months	2	2.27	2.47
		More than 9 months	4	4.55	4.94
		No response	7	7.95	
C.V.4.c	077	No. of months ahead that the "company-wide budget" is finalized			
		Less than 1 month	26	29.55	32.09
		From 1 to 3 months	43	48.86	53.08
		More than 3 to 6 months	9	10.23	11.11
		More than 6 months	1	1.14	1.23
		More than 9 months	2	2.27	2.47
		No response	7	7.95	
C.V.5	079	Break-down of "company-wide budget into further categories			
		Not broken-down	10	11.36	11.76
		1 category	19	21.59	22.35
		2 categories	20	22.73	23.53
		3 categories	17	19.32	20.00
		4 categories	19	21.59	22.35
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
C.V.5	079	Break-down of "company-wide" budget into different geographic regions			
		Not carried out	50	56.82	58.82
		Carried out	35	39.77	41.18
		No response	3	3.41	
C.V.5	080	Break-down of "company-wide" budget for different factories within the company			
		Not carried out	35	39.77	41.18
		Carried out	50	56.82	58.82
		No response	3	3.41	
C.V.5	081	For departments within factories			
		Not carried out	34	38.64	40.00
		Carried out	51	57.91	60.00
		No response	3	3.41	
C.V.5	082	For "service" departments			
		Not carried out	36	40.19	42.35
		Carried out	49	55.68	57.65
		No response	3	3.41	
		D. THE CONTROL SYSTEM AND PROCESS			
D.1	083	No. of reports going to top management daily			
		No reports	50	56.82	68.49
		1 report	14	15.91	19.18
		2 reports	4	4.55	5.48
		3 reports	2	2.27	2.74
		4 reports	2	2.27	2.74
		5 reports	1	1.14	1.37
		No response	15	17.05	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	084	Top management reports - weekly			
		No reports	57	64.77	79.17
		1 report	11	12.50	15.28
		2 reports	3	3.41	4.17
		6 reports	1	1.14	1.39
		No response	16	18.18	
D.1	085	Top management reports - monthly			
		No reports	10	11.36	14.08
		1 report	21	23.86	29.58
		2 reports	5	5.68	7.04
		3 reports	5	5.68	7.04
		4 reports	7	7.95	9.86
		5 reports	7	7.95	9.86
		6 reports	2	2.27	2.82
		7 reports	3	3.41	4.23
		8 reports	1	1.14	1.40
		10 reports	2	2.27	2.82
		11 reports	2	2.27	2.82
		14 reports	1	1.14	1.41
		18 reports	1	1.14	1.41
		20 reports	2	2.27	2.82
		32 reports	1	1.14	1.41
		48 reports	1	1.14	1.41
		No response	17	19.32	
D.1	086	Top management reports - quarterly			
		No reports	32	36.36	43.84
		1 report	21	23.86	28.77
		2 reports	7	7.95	9.59
		3 reports	2	2.27	2.74
		4 reports	2	2.27	2.74
		5 reports	4	4.55	5.48
		7 reports	1	1.14	1.37
		11 reports	1	1.14	1.37
		13 reports	2	2.27	2.74
		18 reports	1	1.14	1.37
		No response	15	17.05	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	087	Top management reports - half-yearly			
		No reports	41	46.59	56.16
		1 report	17	19.32	23.29
		2 reports	6	6.82	8.22
		3 reports	3	3.41	4.11
		4 reports	1	1.14	1.37
		5 reports	2	2.27	2.74
		6 reports	1	1.14	1.37
		7 reports	1	1.14	1.37
		15 reports	1	1.14	1.37
		No response	15	17.05	
D.1	088	Top management reports - Total			
		No reports	3	3.41	4.35
		1 report	13	14.77	18.84
		2 reports	7	7.95	10.14
		3 reports	8	9.09	11.59
		4 reports	5	5.68	7.25
		5 reports	6	6.82	8.70
		7 reports	3	3.41	4.34
		8 reports	6	6.82	8.70
		10 reports	2	2.27	2.90
		11 reports	1	1.14	1.45
		13 reports	1	1.14	1.45
		14 reports	1	1.14	1.45
		15 reports	1	1.14	1.45
		16 reports	1	1.14	1.45
		17 reports	1	1.14	1.45
		18 reports	1	1.14	1.45
		24 reports	3	3.41	4.35
		27 reports	1	1.14	1.45
		30 reports	1	1.14	1.45
		35 reports	1	1.14	1.45
		46 reports	1	1.14	1.45
		54 reports	1	1.14	1.45
		60 reports	1	1.14	1.45
		No response	19	21.59	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	089	Executive Management reports - daily			
		No reports	36	40.91	49.32
		1 report	22	25.00	30.14
		2 reports	4	4.55	5.48
		3 reports	4	4.55	5.48
		4 reports	1	1.14	1.37
		5 reports	4	4.55	5.48
		7 reports	1	1.14	1.37
		11 reports	1	1.14	1.137
		No response	15	17.05	
D.1	090	Executive Management reports - weekly			
		No reports	41	46.59	56.94
		1 report	12	13.64	16.67
		2 reports	9	10.23	12.50
		3 reports	2	2.27	2.78
		4 reports	2	2.27	2.78
		5 reports	3	3.41	4.17
		6 reports	2	2.27	2.78
		29 reports	1	1.14	1.39
		No response	16	18.18	
D.1	091	Executive Management reports - monthly			
		No reports	7	7.95	10.29
		1 report	12	13.64	17.65
		2 reports	4	4.55	5.88
		3 reports	8	9.09	11.76
		4 reports	3	3.41	4.41
		5 reports	5	5.68.	7.35
		6 reports	4	4.55	5.88
		7 reports	3	3.41	4.41
		8 reports	2	2.27	2.91
		10 reports	6	6.82	8.82
		11 reports	3	3.41	4.41
		12 reports	2	2.27	2.94
		15 reports	1	1.14	1.47
		16 reports	2	2.27	2.94
		17 reports	2	2.27	2.94
		18 reports	1	1.14	1.47
		20 reports	2	2.27	2.94
		31 reports	1	1.14	1.47
		No response	20	22.73	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	092	Executive management reports - quarterly			
		No reports	38	43.18	52.05
		1 report	14	15.91	19.18
		2 reports	6	6.82	8.22
		3 reports	2	2.27	2.74
		4 reports	5	5.68	6.85
		5 reports	4	4.55	5.48
		6 reports	1	1.14	1.37
		7 reports	1	1.14	1.37
		15 reports	1	1.14	1.37
		33 reports	1	1.14	1.37
		No response	15	17.05	
D.1	093	Executive management reports - half-yearly			
		No reports	43	48.86	58.90
		1 report	16	18.18	21.92
		2 reports	4	4.55	5.48
		3 reports	1	1.14	1.37
		4 reports	3	3.41	4.11
		5 reports	3	3.41	4.11
		6 reports	2	2.27	2.74
		10 reports	1	1.14	1.37
		No response	15	17.05	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	094	Executive management reports - Total			
		No reports	3	3.41	4.23
		1 report	8	9.09	11.27
		2 reports	3	3.41	4.23
		3 reports	4	4.55	5.63
		4 reports	1	1.14	1.41
		5 reports	5	5.68	7.04
		6 reports	3	3.41	4.23
		7 reports	5	5.68	7.04
		8 reports	1	1.14	1.41
		10 reports	4	4.55	5.63
		11 reports	1	1.14	1.41
		12 reports	2	2.27	2.82
		13 reports	1	1.14	1.41
		14 reports	7	7.95	9.86
		15 reports	2	2.27	2.02
		16 reports	5	5.68	7.04
		17 reports	3	3.41	4.23
		18 reports	2	2.27	2.82
		19 reports	1	1.14	1.41
		20 reports	1	1.14	1.41
		21 reports	1	1.14	1.41
		23 reports	2	2.27	2.02
		25 reports	1	1.14	1.41
		26 reports	1	1.14	1.41
		27 reports	1	1.14	1.41
		35 reports	1	1.14	1.41
		57 reports	1	1.14	1.41
		100 reports	1	1.14	1.41
		No response	17	19.32	
D.1	095	Operational Management reports - daily			
		No reports	28	31.82	38.36
		1 report	19	21.59	26.02
		2 reports	8	9.09	10.96
		3 reports	3	3.41	4.11
		4 reports	4	4.55	5.48
		5 reports	2	2.27	2.74
		6 reports	2	2.27	2.74
		8 reports	1	1.14	1.37
		9 reports	3	3.41	4.12
		13 reports	1	1.14	1.37
		15 reports	1	1.14	1.37
		17 reports	1	1.14	1.37
		No response	15	17.05	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	096	Operational Management reports - weekly			
		No reports	41	46.59	57.45
		1 report	14	15.91	19.72
		2 reports	9	10.23	12.68
		3 reports	2	2.27	2.82
		4 reports	1	1.14	1.41
		5 reports	2	2.27	2.82
		6 reports	2	2.27	2.82
		No response	17	19.32	
D.1	097	Operational Management Reports - monthly			
		No reports	11	12.50	15.28
		1 report	14	15.91	19.44
		2 reports	7	7.95	9.72
		3 reports	9	10.23	12.50
		4 reports	6	6.82	8.33
		5 reports	3	3.41	4.17
		6 reports	1	1.14	1.39
		7 reports	2	2.27	2.78
		8 reports	5	5.68	6.94
		10 reports	3	3.41	4.17
		11 reports	1	1.14	1.39
		12 reports	2	2.27	2.78
		14 reports	1	1.14	1.39
		15 reports	1	1.14	1.39
		17 reports	2	2.27	2.28
		18 reports	1	1.14	1.39
		20 reports	1	1.14	1.39
		26 reports	1.	1.14	1.39
		39 reports	1	1.14	1.39
		Noresponse	16	18.18	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.1	098	Operational Management reports - quarterly			
		No reports	41	46.59	56.16
		1 report	15	17.05	20.54
		2 reports	5	5.68	6.85
		3 reports	1	1.14	1.37
		4 reports	4	4.55	5.48
		5 reports	5	5.68	6.85
		10 reports	1	1.14	1.37
		16 reports	1	1.14	1.37
		No response	15	17.05	
D.1	099	Operational Management reports - half-yearly			
		No reports	49	55.68	67.12
		1 report	15	17.05	20.55
		2 reports	3	3.41	4.11
		4 reports	1	1.14	1.37
		5 reports	2	2.27	2.74
		6 reports	1	1.14	1.37
		8 reports	1	1.14	1.37
		12 reports	1	1.14	1.37
		No response	15	17.05	
D.1	100	Operational Management reports - Total			
		No reports	4	4.55	5.63
		1 report	8	9.09	11.27
		2 reports	6	6.82	8.45
		3 reports	4	4.55	5.63
		4 reports	4	4.55	5.63
		5 reports	6	6.82	8.45
		6 reports	4	4.55	5.63
		7 reports	2	2.27	2.82
		8 reports	3	3.41	4.23
		10 reports	4	4.55	5.63
		11 reports	2	2.27	2.82
		14 reports	5	5.68	7.04
		15 reports	2	2.27	2.82
		16 reports	1	1.14	1.41
		17 reports	1	1.14	1.41
		18 reports	1	1.14	1.41

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
		21 reports	2	2.27	2.82
		22 reports	1	1.14	1.41
		23 reports	1	1.14	1.41
		24 reports	1	1.14	1.41
		25 reports	1	1.14	1.41
		27 reports	1	1.14	1.41
		29 reports	2	2.27	2.82
		30 reports	1	1.14	1.41
		31 reports	1	1.14	1.41
		43 reports	1	1.14	1.41
		49 reports	1	1.14	1.41
		63 reports	1	1.14	1.41
		No response	17	19.32	
D.2	101	Nature of report on sales product line-wise going to top management			
		No report	12	13.64	14.46
		Actuals only	13	14.77	15.66
		Variance	58	65.91	69.88
		No response	5	5.68	
D.2	102	Sales going to Executive Management			
		No report	2	2.27	2.41
		Actuals only	9	10.23	10.84
		Variance	72	81.82	86.75
		No response	5	5.68	
D.2	103	Sales going to Operational Management			
		No report	8	9.09	9.64
		Actuals only	12	13.64	14.45
		Variance	63	71.59	75.90
		No response	5	5.68	
D.2	104	Variable costs of production going to top management			
		No report	33	37.5	39.76
		Actuals only	3	3.41	3.61
		Variance	47	53.41	56.63
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.2	105	Production to executive management			
		No report	23	26.17	27.71
		Actuals only	3	3.41	3.61
		Variance	57	64.77	68.67
		No response	5	5.68	
D.2	106	Production to Operational Management			
		No report	31	35.23	37.35
		Actuals only	5	5.68	6.02
		Variance	47	53.41	56.63
		No response	5	5.68	
D.2	107	Product line contribution to top management			
		Not report	35	39.77	42.68
		Actuals only	4	4.55	4.88
		Variance	43	48.86	52.44
		No response	6	6.82	
D.2	108	Contribution to executive management			
		No report	29	32.95	35.37
		Actuals only	5	5.68	6.09
		Variance	48	54.55	58.54
		No response	6	6.82	
D.2	109	Contribution to operational management			
		No report	42	47.73	51.22
		Actuals only	6	6.82	7.32
		Variance	34	38.64	41.46
		No response	6	6.82	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.2	110	Related Overhead (Activity-wise or product wise)			
		No report	37	42.05	45.12
		Actuals only	4	4.55	4.88
		Variance	41	46.59	50.00
		No response	6	6.82	
D.2	111	Related overhead to executive management			
		No report	23	26.14	28.05
		Actuals only	0	0	0
		Variance	59	67.05	71.95
		No response	6	6.82	
D.2	112	Related overhead to operational management			
		No report	31	35.23	37.80
		Actuals only	2	2.27	2.44
		Variance	49	55.68	59.76
		No response	6	6.82	
D.2	113	Service-department overhead (Company-wide) going to top management			
		No report	40	45.46	48.78
		Actuals only	2	2.27	2.44
		variance	40	45.45	48.78
		No response	6	6.82	
D.2	114	Service department overheads to executive management			
		No report	26	29.55	31.71
		Actuals only	0	0	0
		Variance	56	63.64	68.29
		No response	6	6.82	
D.2	115	Service department overheads going to operational management			
		No report	35	39.77	42.68
		Actuals only	1	1.14	1.22
		Variance	46	52.27	56.09
		No response	6	6.82	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.2	116	PBT/PAT going to top management			
		No report	4	4.55	4.88
		Actuals only	11	12.50	13.41
		Variance	67	76.14	81.71
		No response	6	6.82	
D.2	117	PBT/PAT to executive management			
		No report	17	19.32	20.73
		Actuals only	5	5.68	6.09
		Variance	60	68.18	73.17
		No response	6	6.82	
D.2	118	PBT/PAT to operational management			
		No report	46	52.27	56.09
		Actuals only	2	2.27	2.44
		Variance	34	38.64	41.46
		No response	6	6.82	
D.2	119	Quality, yield, efficiency, capacity utilization and similar non-financial items going to top management			
		No report	38	43.18	46.34
		Actuals only	6	6.82	7.32
		Variance	38	43.18	46.34
		No response	6	6.82	
D.2	120	Non-financial items to executive management			
		No report	13	14.77	15.85
		Actuals only	13	14.77	15.85
		Variance	56	63.64	68.29
		No response	6	6.82	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.2	121	Non-financial items to operational management			
		No report	14	15.91	17.07
		Actuals only	15	17.05	18.29
		Variance	53	60.23	64.63
		No response	6	6.82	
D.2	122	Title of the executive administering the MCS			
		Controller	11	12.50	13.41
		Chief Accountant	9	10.23	10.98
		Other	62	70.45	75.61
		No response	6	6.82	
D.2	123	Executive to whom the individual administering the M C S reporting			
		Chief Executive	62	70.45	75.61
		Finance Director	8	9.09	9.76
		Chief Accountant	2	2.27	2.44
		Other	10	11.36	12.21
		No response	6	6.82	
D.2	124	Frequency of reviews of actual versus expected performance			
		No such reviews	3	3.41	3.53
		Review after six months	6	6.82	7.05
		Reviews every quarter	21	23.86	24.71
		Review every month	55	62.50	64.71
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.6	125	Number of days after the end of each period (within the budget year) for which reports are generated, within which the sales report is generated.			
		Within 5 days	32	36.36	37.65
		Within 10 days	29	32.95	34.12
		Within 15 days	15	17.05	17.65
		Within 1 month	8	9.09	9.41
		Within 1½ months	0	0	0
		Within 2 months	0	0	0
		Usually more than 2 months	1	1.14	1.18
		No response	3	3.41	
D.6	126	Number of days for the production report			
		Within 5 days	38	43.18	48.10
		Within 10 days	20	22.73	25.32
		Within 15 days	9	10.23	11.39
		Within 1 month	10	11.36	12.66
		Within 1½ months	2	2.27	2.53
		Within 2 months	0	0	0
		Usually more than 2 months	0	0	0
		No response	9	10.23	
D.6	127	Number of days for the overhead report			
		Within 5 days	3	3.41	3.70
		Within 10 days	6	6.82	7.41
		Within 15 days	27	30.68	33.33
		Within 1 month	36	40.91	44.44
		Within 1½ months	4	4.55	4.94
		Within 2 months	3	3.41	3.70
		Usually more than 2 months	2	2.27	2.47
		No response	7	7.95	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.6	128	Number of days for profit report			
		Within 5 days	3	3.41	3.66
		Within 10 days	8	9.09	9.76
		Within 15 days	27	30.68	32.93
		Within 1 month	35	39.77	42.68
		Within 1½ months	4	4.55	4.88
		Within 2 months	3	3.41	3.66
		Usually more than 2 months	2	2.27	2.44
		No response	6	6.82	
D.6	129	Number of days for non-financial indicators including environmental information.			
		Within 5 days	9	10.23	15.00
		Within 10 days	6	6.82	10.00
		Within 15 days	20	22.73	33.33
		Within 1 month	20	22.73	33.33
		Within 1½ months	2	2.27	3.33
		Within 2 months	2	2.27	3.33
		Usually more than 2 months	1	1.14	1.67
		No response	28	31.82	
D.7	130	Means of preparation of the reports			
		Manual	41	46.59	47.67
		Punched cards	12	13.64	13.95
		EDP	31	35.23	36.05
		Other	2	2.27	2.33
		No response	2	2.27	
D.8	131	Number of types ofactions, if necessary after a review of performance			
		Not applicable	2	2.27	2.35
		No actions	2	2.27	2.35
		1 type of action	25	28.41	29.41
		2 types of actions	31	35.23	36.47
		3 types of actions	17	19.32	20.00
		4 types of actions	6	6.82	7.05
		5 types of actions	2	2.27	2.35
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.8	132	Modification of pricing policies or specific product prices after formal review of performance			
		Not undertaken	42	47.73	50.00
		Undertaken if necessary	42	47.73	50.00
		No response	4	4.55	
D.8	133	Undertaking of new sales promotion activities			
		Not undertaken	32	36.36	38.09
		Undertaken if necessary	52	59.09	61.90
		No response	4	4.55	
D.8	134	Redeployment of resources such as men and money			
		Not undertaken	35	39.77	41.67
		Undertaken if necessary	49	55.68	58.33
		No response	4	4.55	
D.8	135	Other actions			
		Not undertaken	57	64.77	67.86
		Undertaken if necessary	27	30.68	32.14
		No response	4	4.55	
D.9	136	Performance evaluation and reward/ punishment of executives on the basis of variances from budgeted performance			
		Not applicable on variances developed	13	14.77	15.29
		No evaluation on this basis	14	15.91	16.47
		Evaluation is done on this basis	58	65.91	68.24
		No response	3	3.41	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.10	137	Number of professional staff engaged primarily in administering the MCS			
		No professional staff	1	1.14	1.61
		1 to 3 professional staff	31	35.23	50.00
		4 to 10 professional staff	22	25.00	35.48
		11 to 25 professional staff	7	7.95	11.29
		No response	26	29.55	
D.10	138	Number of clerical staff engaged primarily in administering the MCS			
		No clerical staff	3	3.41	4.92
		1 to 5 clerical staff	30	34.09	49.18
		6 to 10 clerical staff	13	14.77	21.31
		11 to 20 clerical staff	5	5.68	8.20
		21 to 50 clerical staff	7	7.95	11.48
		More than 100	1	1.14	1.64
		No response	27	30.68	
D.10	139	Total number of professional and clerical staff engaged primarily in administering the MCS			
		1 to 10	34	38.64	56.67
		11 to 20	11	12.50	18.33
		21 to 50	11	12.50	18.33
		51 to 100	4	4.55	6.67
		More than 100	1	1.14	1.67
		No response	28	31.82	
D.11	140	Percentage of time spent by the Chief Executive in setting up the budget (300 days = 100% of C.E.'s time)			
		0-5%	47	53.41	66.19
		6-10%	21	23.86	29.58
		11-20%	3	3.41	4.23
		21-35%	0	0	0
		More than 35%	0	0	0
		No response	17	19.32	

Question Number	Variable Number	Description of "variable"	No. of companies	% of companies	% of responding companies
D.11	141	Percentage of time spent by the Chief Executive in performance evaluation based on the budget			
		0-5%	27	30.68	39.13
		6-10%	28	31.82	40.58
		11-20%	10	11.36	14.49
		21-35%	4	4.55	5.79
		More than 35%	0	0	0
		No response	19	21.59	
D.12	142	Use of "standard costs"			
		Not employed	27	30.68	33.75
		Employed	53	60.23	66.25
		No response	8	9.09	
D.13	143	Basis on which "standard costs" were developed			
		Not applicable	22	25.00	28.57
		Industrial Engg. analysis	8	9.09	10.39
		Past performance	17	19.32	22.07
		Other	3	3.41	3.90
		Both industrial engineering and past-performance	27	30.68	35.06
		No response	11	12.50	
D.14	144	Existence of "responsibility centres"			
		No responsibility centres	13	14.77	15.48
		Cost centres	35	39.77	41.67
		Profit centres	6	6.82	7.14
		Both cost and profit centres	30	34.09	35.71
		No response	4	4.55	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
D.15	145	Basis of transfer-prices			
		Not applicable	40	45.45	49:38
		Based on market-value	6	6.82	7.41
		Based on standard cost plus a specified mark-up	9	10.23	11.11
		Negotiated by managers of concerned responsibility centres	8	9.09	9.98
		Others	18	20.45	22.22
		No response	7	7.95	
D.16	146	Review of <u>non-financial</u> indicators of performance by the Chief Executive			
		Not carried out	17	19.32	21.25
		Carried out	63	71.59	78.75
		No response	8	9.09	
		<u>E. PROBLEMS EXPERIENCED</u>			
E.1.a	147	The degree of difficulty experienced in collecting data relating to <u>sales volume</u>			
		1. Difficult to obtain	3	3.41	3.53
		2.	1	1.14	1.18
		3.	10	11.36	11.76
		4	9	10.23	10.59
		5 No problem	62	70.45	72.94
		No response	3	3.41	
E.1.b	148	Difficulty with regard to <u>sales price</u>			
		1 Difficult to obtain	2	2.27	2.41
		2	1	1.14	1.20
		3	7	7.95	8.43
		4	12	13.64	14.46
		5 No problem	61	69.32	73.49
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.1.c	149	Difficulty with regard to production volume			
		1 Difficult to obtain	1	1.14	1.28
		2	2	2.27	2.56
		3	5	5.68	6.41
		4	5	5.68	6.41
		5 No problem	65	73.86	83.33
		No response	10	11.36	
E.1.d	150	Difficulty with regard to production costs			
		1 Difficult to obtain	2	2.27	2.56
		2	2	2.27	2.56
		3	20	22.73	25.64
		4	14	15.91	17.95
		5 No problem	40	45.45	51.28
		No response	10	11.36	
E.2.a	151	Problem caused by financial accounting system impeding the control system because financial accounting practice is based on company law practice			
		1 Serious problems	2	2.27	2.41
		2	0	0	0
		3 Average	33	37.50	39.76
		4	11	12.50	13.25
		5 No problem	37	42.05	44.58
		No response	5	5.68	
E.2.b	152	Problem caused by financial accounting system impeding the control system because financial accounting demands an unnecessary degree of accuracy and hence causes delays			
		1 Serious problem	1	1.14	1.20
		2	4	4.55	4.82
		3 Average	28	31.82	33.73
		4	15	17.05	18.07
		5 No problem	35	39.77	42.17
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.3.a	153	Implementation problem caused by delays in data submission			
		1 Serious problem	6	6.82	7.05
		2	9	10.23	10.59
		3 Average	31	35.23	36.47
		4	25	28.41	29.41
		5 No problem	14	16.91	16.47
		No response	3	3.41	
E.3.b	154	Implementation problem caused by lack of reliability of data			
		1 Serious problem	2	2.27	2.40
		2	3	3.41	3.61
		3 Average	30	34.09	36.14
		4	9	10.23	10.84
		5 No problem	39	44.32	46.98
		No response	5	5.68	
E.3.c	155	Implementation problems caused by data being provided by several different sources			
		1 Serious problem	3	3.41	3.61
		2	8	9.09	9.64
		3 Average	28	31.82	33.73
		4	26	29.55	31.33
		5 No problem	18	20.45	21.69
		No response	5	5.68	
E.3.d	156	Implementation problem caused by excessive time being required to obtain data of adequate accuracy			
		1 Serious problem	2	2.27	2.38
		2	3	3.41	3.57
		3 Average	28	31.82	33.33
		4	25	28.41	29.76
		5 No problem	26	29.55	30.95
		No response	4	4.55	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.3.e	157	Implementation problem caused by delay in availability of data caused by use of data of excessive accuracy			
		1 Serious problem	1	1.14	1.22
		2	4	4.55	4.88
		3 Average	22	25.00	26.83
		4	22	25.00	26.83
		5 No problem	33	37.50	40.24
		No response	6	6.82	
E.3.f	158	Implementation problem caused by excessive time being required to compile and process the data			
		1 Serious problem	0	0	0
		2	9	10.23	10.71
		3 Average	25	28.41	29.76
		4	24	27.27	28.57
		5 No problem	26	29.55	30.95
		No response	4	4.55	
E.3.g	159	Implementation problems caused by changes from the assumptions made at the budget development time			
		1 Serious problem	2	2.27	2.44
		2	8	9.09	9.76
		3 Average	35	39.77	42.68
		4	18	20.45	21.95
		5 No problem	19	21.59	23.17
		No response	6	6.82	
E.3.h	160	Implementation problems caused by the periods for which variance reports are developed being too short to provide meaningful data			
		1 Serious problem	0	0	0
		2	0	0	0
		3 Average	18	20.45	21.69
		4	12	13.64	14.46
		5 No problem	53	60-23	63.83
		No response	5	5.68	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.3.i	161	Implementation problems caused by the authorities and responsibilities of individuals not being defined with adequate clarity			
		1 Serious problem	6	6.82	7.23
		2	5	5.68	6.02
		3 Average	23	26.14	27.71
		4	9	10.23	10.84
		5 No problem	40	45.45	48.19
		No response	5	5.68	
E.3.j	162	Implementation problems caused by the responsibility for variances being shared by more than one executive			
		1 Serious problem	3	3.41	3.61
		2	11	12.50	13.25
		3 Average	32	36.36	38.55
		4	17	19.32	20.48
		5 No problem	20	22.73	24.09
		No response	5	5.68	
E.3.k.	163	Implementation problem caused by the standards set in the budget being accepted by operational management			
		1 Serious problem	0	0	0
		2	0	0	0
		3 Average	18	20.45	22.50
		4	11	12.50	13.75
		5 No problem	51	57.95	63.75
		No response	8	9.09	
E.3.l	164	Implementation problem caused by differences of opinion regarding the controllability of the variances			
		1 Serious problem	2	2.27	2.44
		2	6	6.82	7.32
		3 Average	29	32.95	35.37
		4	17	19.32	20.73
		5 No problem	28	31.82	34.15
		No response	6	6.82	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.3.m	165	Implementation problem caused by differences between the company's objectives and the objectives of individual activities			
		1 Serious problem	1	1.14	1.22
		2	3	3.41	3.66
		3 Average	22	25.00	26.83
		4	16	18.18	19.51
		5 No problem	40	45.45	48.78
		No response	6	6.82	
E.3.n	166	Implementation problems caused by standards in budget being consciously set at a higher level than are reasonably attainable			
		1 Serious problem	1	1.14	1.22
		2	2	2.27	2.44
		3 Average	22	25.00	26.83
		4	24	27.27	29.27
		5 No problem	33	37.50	40.24
		No response	5	6.82	
E.3.o	167	Implementation problem caused by executives resenting the control system and viewing it as a curb on their innovative ideas			
		1 Serious problem	0	0	0
		2	2	2.27	2.41
		3 Average	22	25.00	26.51
		4	17	19.32	20.48
		5 No problem	42	47.73	50.60
		No response	5	5.68	
E.3.p.	168	Implementation problem caused by the status of the administrator or the control system being inadequate			
		1 Serious problem	1	1.14	1.23
		2	3	3.41	3.70
		3 Average	9	10.23	11.11
		4	7	7.95	8.64
		5 No problem	61	69.32	75.30
		No response	7	7.95	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.3.q	169	Implementation problem caused by top management not providing adequate resources to effectively implement the control system			
		1 Serious problem	0	00.00	0
		2	2	2.27	2.41
		3 Average	12	13.64	14.46
		4	9	10.23	10.84
		5 No problem	60	68.18	72.29
		No response	5	5.68	
E.3.r	170	Implementation problem caused by top management not paying adequate attention to the reports generated by the control system and not acting on the reports			
		1 Serious problem	1	1.14	1.20
		2	0	0	0
		3 Average	12	13.64	14.46
		4	16	18.18	19.28
		5 No problem	54	61.36	65.06
		No problem	5	5.68	
E.4.a	171	The frequency of occurrence of variances which are the responsibility of both the production and purchase departments			
		1 Very frequently	6	6.18	8.11
		2	8	9.09	10.81
		3 Average	32	36.36	43.24
		4	15	17.05	20.27
		5 Rarely	13	14.77	17.57
		No response	14	15.91	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.4.b	172	The frequency of occurrence of variances which are the responsibility of both the Production and Personnel Departments			
		1 Very frequently	4	4.55	5.26
		2	4	4.55	5.26
		3 Average	26	29.55	34.21
		4	22	25.00	28.95
		5 Rarely	20	22.73	26.32
		No response	12	13.64	
E.4.c	173	The frequency of occurrence of variances which are the responsibility of both the Production and Maintenance Departments			
		1 Very frequently	3	3.41	3.95
		2	6	6.82	7.89
		3 Average	39	44.32	51.32
		4	15	17.05	19.74
		5 Rarely	13	14.77	17.11
		No response	12	13.64	
E.4.d	174	The frequency of occurence of variances which are the responsibility of both the Production and Sales Departments			
		1 Very frequently	5	5.68	6.58
		2	12	13.64	15.79
		3 Average	31	35.23	40.79
		4	10	11.36	13.16
		5 Rarely	18	20.45	23.68
		No response	12	13.64	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
E.4.e	175	The frequency of occurrence of variances which are the responsibility of both the Sales and Personnel Departments			
		1 Very ffequently	1	1.14	1.29
		2	0	0	0
		3 Average	20	22.73	25.97
		4	20	22.73	25.97
		5 Rarely	36	40.91	46.75
		No response	11	12.50	
E.4.f	176	The frequency of occurence of variance which are the responsibility of both the Sales and Finance Departments			
		1 Very frequently	1	1.14	1.27
		2	3	3.41	3.79
		3 Average	16	18.18	20.25
		4	25	28.41	31.65
		5 Rarely	34	38.64	43.03
		No response	9	10.23	
		F. EFFECTIVENESS			
F.1.a	177	Respondent's understanding of top managements assessment of the effectiveness of the control system with regard to Production			
		1 Very effective	25	28.41	31.65
		2	16	29.55	20.25
		3 Average	20	22.73	25.32
		4	7	7.95	8.86
		5 Not at all effective	1	1.14	1.27
		No response	9	10.23	

Question Number	Variable Number	Description of "Variable"	No. of companies	% of companies	% of responding companies
F.1.b	178	Effectiveness with regard to Sales			
		1 Very effective	25	28.41	30.12
		2	29	32.95	34.94
		3 Average	26	29.55	31.33
		4	3	3.41	3.61
		5 Not all effective	0	0	0
		No response	5	5.68	
F.1.c	179	Effectiveness with regard to overhead			
		1 Very effective	17	19.32	20.48
		2	22	25.00	26.51
		3 Average	32	36.36	38.55
		4	9	10.23	10.84
		5 Not at all effective	3	3.41	3.61
		No response	5	5.68	
F.1.d	180	Effectiveness with regard to costs			
		1 Very effective	22	25.00	26.83
		2	22	25.00	26.83
		3 Average	28	31.82	34.15
		4	9	10.23	10.98
		5 Not all effective	1	1.14	1.22
		No response	6	6.82	
F.1.e	181	Effectiveness with regard to profit			
		1 Very effective	29	32.95	35.80
		2	24	27.27	29.63
		3 Average	19	21.59	23.63
		4	7	7.95	8.64
		5 Not at all effective	2	2.27	2.47
		No response	7	7.95	
F.1.f	182	Effectiveness with regard to overall corporate performance			
		1 Very effective	22	25.00	26.83
		2	30	34.09	36.59
		3 Average	22	25.00	26.83
		4	7	7.95	8.54
		5 Not at all effective	1	1.14	1.22
		No response	6	6.82	

ANNEXURE III

FREQUENCY DISTRIBUTION OF VARIABLES IN THE COMPUTERIZED DATA BANK

(Obtained from Published Financial Statements)

Variable No.	Description	No. of companies	% of companies
187	Margin (Sales - Raw Material-supplies - power and fuel - repairs)		
	Less than and equal to 100 million	45	51.14
	More than 100 upto 250 million	18	20.45
	More than 250 upto 500 million	6	6.82
	More than 500 upto 1000 million	2	2.27
	More than 1000 upto 1500 million	2	2.27
	More than 1500 million	1	1.14
	Private Limited Companies	14	15.91
188	Compounded growth rate of profits after tax over the last three years.		
	Less than and equal to -5%	31	35.23
	More than -5% upto 0%	6	6.82
	More than 0% upto 5%	5	5.68
	More than 5% upto 10%	4	4.54
	More than 10% upto 25%	12	13.64
	More than 25%	16	18.18
	Private Limited companies	14	15.91
189	Compounded growth rate of sales over the last three years.		
	Less than and equal to -5%	1	1.14
	More than -5% upto 0%	2	2.27
	More than 0% upto 5%	13	14.77
	More than 5% upto 10%	18	20.45
	More than 10% upto 25%	29	32.95
	More than 25%	11	12.50
	Private Limited Companies	14	15.91

VARIABLES OBTAINED FROM PUBLISHED FINANCIAL STATEMENTS.

Variable No.	Description	No. of companies	% of companies
183	**Sales**		
	Less than or equal to 50 million	14	15.91
	More than 50 upto 100 million	14	15.91
	More than 100 upto 250 million	18	20.45
	More than 250 upto 500 million	16	18.18
	More than 500 million	12	13.64
	Private Limited Companies	14	15.91
184	**Gross Assets**		
	Less than or equal to 50 million	26	29.55
	More than 50 upto 100 million	13	14.77
	More than 100 upto 250 million	15	17.04
	More than 250 upto 500 million	9	10.23
	More than 500 upto 1000 million	5	5.68
	More than 1000 million	6	6.82
	Private Limited Companies	14	15.91
185	**Average Gross Assets: Sales Ratio**		
	Less than or equal to 0.3	18	20.45
	More than 0.3 upto 0.6	15	17.05
	More than 0.6 upto 1.0	20	22.73
	More than 1 upto 2	13	14.77
	More than 2	8	9.09
	Private Limited Companies	14	15.91
186	**Funds Employed (Capital + retained earnings + long term loans)**		
	Less than or equal to 50 million	26	29.55
	More than 50 upto 100 million	13	14,77
	More than 100 upto 250 million	16	18.18
	More than 250 upto 500 million	9	10.23
	More than 500 upto 1000 million	5	5.68
	More than 1000 million	5	5.68
	Private Limited Companies	14	15.91

Variable No.	Description	No. of companies	% of companies
190	Margin/Sales		
	Less than or equal to .25	8	9.09
	More than .25 upto .35	17	18.32
	More than .35 upto .45	19	21.59
	More than .45 upto .55	11	12.50
	More than .55 upto .65	8	9.09
	More than .65	11	12.50
	Private Limited Companies	14	15.91
200	Management Style		
	Subsidiary of a foreign company	17	19.32
	Companies which were previously being managed by foreign managing agency	11	12.50
	Companies which were previously being managed by Indian managing agency houses	17	19.32
	Large Indian companies not belonging to any managing agency group	6	6.82
	Indian companies with substantial financial participation by the foreign collaborator	12	13.64
	Companies belonging to family business	8	9.09
	Public Enterprise	17	19.32

ANNEXURE IV

CORRELATION BETWEEN MEASURES OF EFFECTIVENESS, AND DESIGN FEATURES AND IMPLEMENTATION PROBLEMS

CORRELATION BETWEEN MEASURES OF EFFECTIVENESS, AND DESIGN FEATURES AND IMPLEMENTATION PROBLEMS.

VARIABLE 182: Effectiveness with regard to Overall Corporate Performance

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degree of Freedom
1	2	Number of employees	N.S.			
2	4	Number of production locations	N. S.			
3	5	Number of product lines	N. S.			
4	9	Primary type of product	N. S.			
5	11	Availability of raw materials	N. S.			
6	13	Involvement of Board of Directors	N. S.			
7	14	Percentage equity held by foriegn interests	N. S.			
8	16	Selected parameters of objectives	N. S.			
9	72	Extent of participation in budget development	N. S.			
10	73	Frequency of reviews with intent to revise the budget	N. S.			
11	74	Reasons for budget revisions	5%	11.0359	.350103	4
12	140	Percentage of time spent by the Chief Executive in setting up the budget	N.S.			
13	141	Percentage of time spent by theChief Executive in performance evaluation based on the budget	N.S.			
14	153	Implemantation problems caused by delays in data submission	5%	10.1054	.331234	4

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
15	154	Implementation problem caused by lack of reliability of data	1%	13.8904	.382602	4
16	155	Implementation problem caused by data being provided by several different sources	N.S.			
17	156	Implementation problem caused by excessive time being required to obtain data of adequate accuracy	1%	13.8179	.381747	4
18	157	Implementation problem caused by delay in availability of data caused by use of data of excessive accuracy	1%	19.6167	.443759	4
19	158	Implementation problem caused by excessive time being required to compile and process the data	10%	8.34835	.303977	4
20	159	Implementation problem caused by changes from the assumptions made at the budget development time	5%	10.8182	.345137	4
21	160	Implementation problems caused by the periods for which variance reports are developed being too short to provide meaningful data	5%	11.0076	.345887	4
22	161	Implementation problems caused by the authorities and responsibilities of individuals not being defined with adequate clarity	1%	15.1082	.396485	4

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Co-efficient	Degrees of Freedom
23	162	Implementation problems caused by the responsibility for variances being shared by more than one executive	N.S.			
24	163	Implementation problem caused by the standards set in the budget not being accepted by operational management	10%	.43465	.189116	4
25	164	Implementation problem caused by differences of opinion regarding the controllability of the variances	10%	9.53946	.326403	4
26	165	Implementation problem caused by differences between the company's objectives and the objectives of individual activities	5%	11.0427	.348269	4
27	166	Implementation problems caused by standards in budget being consciously set at a higher level than are reasonably attainable	N.S.			
28	167	Implementation problem caused by executives resenting the control system and viewing it as a curb on their innovative ideas	1%	14.2936	.387292	4
29	168	Implementation problem caused by the status of the Administrator of the control systems being inadequate	1%	18.586	.436415	4
30	169	Implementation problem caused by top management not providing adequate resources to effectively implement the control system	1%	14.1118	.385189	4

Sl. No.	Variable Number	Description	Level of Signi-ficance	Chi-Square	Contin-gency Coeffi-cient	Degree of Freedom
31	170	Implementation problem caused by top management not paying adequate attention to the reports generated by the control system and not acting on the reports	5%	11.6312	.354352	4
	VARIABLE 181: Effectiveness with regard to Profit					
1	2	Number of employees	N.S.			
2	4	Number of production locations	N.S.			
3	5	Number of product lines	10%	11.1416	.353535	6
4	9	Primary type of product	N.S.			
5	11	Availability of raw material	N. S.			
6	13	Involvement of Board of Directors	N.S.			
7	14	Percentage of equity held by foreign interests	10%	9.34201	.332811	4
8	27	Who prepares the sales budget	N.S.			
9	30	Projections of past sales as a basis for the sales budget	N.S.			
10	31	Competition as a basis	N.S.			
11	32	Econometric data as a basis	N.S.			
12	33	Specific estimates of likely demands from existing and potential customers as a basis	N.S.			
13	37	Inventory levels as a factor	N. S.			

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
14	38	Availability of raw materials as a factor	5%	6.2423	.278914	2
15	39	Availabilityof finance as a factor	N.S.			
16	43	Costs at which goods are to be produced as an item	1%	10.5136	.350637	2
17	44	Variable costs as a category when specifying the costs of production	N.S.			
18	45	Departmental costs as a category	10%	6.48406	.285617	2
19	46	Non-routine costs as a category	N.S.			
20	47	Fixed overhead as a category	N.S.			
21	48	"Contribution" or "margin" for products or product lines	N.S.			
22	49	Development of "purchase price variances"	10%	7.90438	.310656	4
23	50	Identification of "standards", in production budget, for materials consumption	N.S.			
24	61	Whether PAT/PBT is budgeted for the company as a whole	N. S.			
25	62	Periods into which the annual cash flow statement is broken up	N. S.			

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
26	64	Credit terms given and level of A/c's receivable as a consideration	N.S.			
27	65	Inventory levels as a consideration	N.S.			
28	67	Credit terms received and level of accounts payable as a consideration	N.S.			
29	68	Bank facilities available, including secured loans as a consideration	N.S.			
30	70	Whether the company-wide budget is reviewed and if so by whom	N.S.			
		VARIABLE 180: Effectiveness with regard to Costs				
1	43	Costs at which goods are to be produced as an item	1%	10.3247	.349914	2
2	44	Variable costs as a category when specifying the costs of production	N.S.			
3	45	Departmental costs as a category	10%	5.46027	.265502	2
4	50	Identification of "standards", in production budget, for materials consumption	N.S.			

Variable 179: Effectiveness with regard to Overhead

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
1	57	Existence of an overhead budget	1%	9.30881	.326526	2
2	58	Categories into which overhead costs are separated	N.S.			
3	59	Who develops the overhead budget	N.S.			

VARIABLE 176: Effectiveness with regard to Sales

1	4	Number of product locations	N.S.			
2	5	Number of product lines	N.S.			
3	6	Number of customers	10%	14.0293	.413555	8
4	8	Primary type of customer	N.S.			
5	9	Primary typeof product	N.S.			
6	25	Basis on which the sales budget is prepared	N.S.			
7	26	Periods into which the sales budget is broken up	N.S.			
8	27	Who prepares the sales budget	1%	20.1401	.447126	8
9	28	By whom the sales budget is reviewed before acceptance	N.S.			
10	30	Projections of past sales as a basis for the sales budget	N. S.			

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
11	31	Competition as a basis	N.S.			
12	32	Econometric data as a basis	N.S.			
13	33	Specific estimates of likely demands from existing and potential customers as a basis	N.S.			
14	57	Existence of an overhead budget	2%	8.26238	.309487	2
		VARIABLE 177: Effectiveness with regard to Production				
1	4	Number of production locations	N.S.			
2	5	Number of product lines	N.S.			
3	11	Availability of raw materials	N.S.			
4	36	Budgeted sales as a factor in influencing the production budget	N.S.			
5	37	Inventory levels as a factor	N.S.			
6	38	Availability of raw materials as a factor	N.S.			
7	39	Availability of finance as a a factor	N.S.			
8	41	Delivery schedules as an item	N.S.			
9	43	Costs at which goods are to be produced as an item	10%	4.90138	.246139	2
10	44	Variable costs as a category when specifying the costs of production	N.S.			

Sl. No.	Variable Number	Description	Level of Significance	Chi-Square	Contingency Coefficient	Degrees of Freedom
11	49	Development of "purchase price variances"	N.S.			
12	50	Identification of "standards", in production budget, for materials consumption	N.S.			
13	53	Who develops the production budget	N.S.			
14	54	Who reviews the production budget	N.S.			
15	56	Periods into which the production budget is broken up	N.S.			