Abstracts

The purpose of these abstracts is to provide reference facilities in the management field. These abstracts have been sponsored by the Indian Council of Social Science Research. These abstracts cover books and articles on empirical studies, experiences of people involved in the management process, and concepts and theories based on Indian data and environment written by Indian or foreign authors and published in India or abroad.

The following areas of management are covered:

Financial Management, Management Accounting, and Control
Marketing
Organization and Administration
Personnel Management and Industrial Relations
Production Management, Computers, and Operations Research
General Management: Environment, Policy, and Planning.


Financial Management
Management Accounting, and Control


This is a cross-sectional study of managers from diverse organizations, investigating the reciprocal relationship between accounts and finance personnel and other functional personnel. Data were collected from 58 finance executives and 149 non-finance executives with the help of a questionnaire consisting of 24 different kinds of attributes. The conclusion is that the self-perception of the finance group and the perception about the other group's attributes are internally consistent.


This paper enunciates some of the fundamental principles of financial planning. While planning for finance, principles of financial leverage should be kept in mind. Financial leverage is most advisable for increasing earnings per share. Absence of leverage shows poor financial management while too much dependence on it shows a risky financial policy. In most Indian enterprises, the debt to equity ratio is 1.8:1. Financial institutions such as IDBI, ICICI, and IFCI provide most of the finance.


This paper quantifies in certain hypothetical cases incremental requirement of funds in the form of depreciation and debt servicing on the
basis of certain simplifying assumptions. It is based on data available in *Financial Performance of Companies: ICICI Portfolio, 1975-76*. It is stated that the capital cost of industrial projects has risen sharply in the last few years and resort to external funds for financing investment had increased while interest rates on term finance had been raised. The author suggests that an identification of the amount of incremental funds required by an industrial unit on account of the above factors would help to assess the impact of escalation in capital cost, increase in rate changes on term finance, and enhance the capital charge on account of depreciation. The paper concludes that the rate of industrial investment is determined by technological progress and growth in industrial output and demand.


This book measures capital formation in the Indian economy for the period 1950-51 to 1972-73. The problems of estimation at the aggregate level has been approached from two sides: physical (commodity flow), and financial (through estimates of financial savings). The results obtained have been more or less identical. The disaggregation of estimates of gross domestic capital formation and savings into different categories is the main feature of the present study. The estimate excludes investment in human capital and other intangibles.


This paper develops the fact that the fundamental objective of financial statements is to communicate information on the discharge of accountability of an entity to various parties to whom the entity is accountable. Accountability is not confined merely to relationship between management and proprietorship. Within management itself, a subordinate is accountable to his superior for the management of resources entrusted to him. The methods of disclosure, technology, parenthetical information, footnotes, supplementary statements and schedules, and reports of directors and auditors are amply discussed. The limitations of financial statements are also presented. The author suggests that it is essential to keep in mind the limitations that financial statements pose, lest one's interpretation and analysis go astray.


This paper discusses some of the problems faced by the private sector for its unsatisfactory performance and suggests possible lines for dealing with these problems. The problems highlighted in this issue are debt equity ratio, delays, and the convertibility clause. The author argues that these problems arose because of the financing of new industrial ventures. Emphasis is laid on a closer scrutiny of the problems of financing industrial development to overcome the crisis in investment, and delay in the growth of priority industries in accordance with the nation's priorities.


This volume is a comparative study of the organizational, quantitative, qualitative, behavioural, and control aspects of capital budgeting in large manufacturing public limited companies. A comparison with the United States practice and procedures has been made wherever possible. With the aid of questionnaires, data were collected from 52 companies of which 31 were chemical, 23 engineering, and 12 textile. The results indicate that many large companies in the private sector are unaware of the need for a well-formulated capital expenditure programme. The adoption of discounted cash flow techniques has been quick in the United States.

Vikalpa
India seems to be lagging behind by more than a decade in this respect. The author reviews other findings and makes some suggestions and recommendations for the benefit of academicians, industry, and government.


The authors critically examine the information system suggested by the Tandon Committee. The main features of the information required by the borrower to the banker relates to overall operations of the borrower and financial aspects of the borrower. Borrowers have also to submit yearly, half yearly, quarterly, and monthly statements in respect of operational and financial information. Problems associated with the system are discussed. The authors conclude that the information system suggested by the group will go a long way in achieving national objectives. On the one hand it is expected to ensure uninterrupted supply of adequate working capital to industry and on the other it will assist in the efficient management of working capital and consequently improve the profitability of business enterprises.


This paper presents a broad outline of a system of cost accounting applicable in the case of a heavy engineering plant fabricating multifarious, tailor-made equipment, commercially known as custom built equipment, required by process industries. In order to facilitate a scientific and accurate estimation of cost, the organizational set-up of the plant should provide for an efficient working of the following important departments associated with production management: designing and drawing office, material management and control, production planning and control, and industrial engineering.


This study determines the relative importance of investment in different industries, as also of likely interdependence or independence between them and the lags involved to realize the investment. Econometric analysis has been used to investigate investment behaviour in Indian industries. The sources of data for this study are the Reserve Bank of India Bulletin and the Bombay Stock Exchange Directory. Of the 142 companies served with questionnaires only 72 of them responded to provide the details of tax incentives enjoyed during the period 1965-66 to 1970-71. The industries selected for the study are sugar, cotton textiles, paper and paper products, chemicals, fertilizers, cement, and motor vehicles. It was found that tax incentive schemes seemed to have had their positive influence on investment of industries, except in cement and fertilizers. In these two industries, long-term debt capital was the major source of financing investment. The empirical findings for each industry are elaborately explained with the help of tables.


This paper discusses ways and means to be adopted by decisionmakers for evolving a method whereby a continuous stream of new products is introduced each year. They are explained under the following headings: development expenses; components of development expenses; the new accounting concept; economics of growth; effect of development expenses on profit profile; complexity of analysis; and integrated planning and budgeting. Emphasis is placed on executives identifying and mobi-
lizing development resources of the corporation. Top management must focus attention on the use of developmental resources and re-examine the distribution of authority for committing resources to developmental projects. By monitoring the effectiveness of utilization of development funds, top management can control the future of the corporation. Since managing change is a problem with which managers live, they should design planning, budgeting, and reporting systems to bring the problem into focus.


Based on RBI's studies on the finances of medium and large public limited companies, this paper analyses the finances of cotton textile companies. The analysis reveals a marked deterioration in the profitability during 1971-72. A sharp rise in the price of multi-fibre textiles and yarn resulted in labour turnover in 1974-75. It is therefore essential that there be some provision for arresting the diversion of internally generated funds to other activities in any programme of modernization of cotton textile industry which requires enormous funds.

Marketing


An attempt is made in this book to assess the hedging utility of commodity future markets to different market functionaries like merchants, manufacturers, etc. Particular reference has been made to the hedging utility of the cotton futures market. The study covers a period of 11 years from 1953-54 to 1963-64, confined to the futures market of cotton in Bombay. Price data have been taken from the Bombay Cotton Annuals published by the East India Cotton Association. Empirical analysis has been supported by elaborate theoretical discussion on the economic determinants and efficiency of hedging. It was found that a futures market has an inherent bias against short hedges. As established by the author both theoretically and empirically, this finding was contrary to the hitherto accepted belief about the economic efficiency of futures market for short hedging. However, the author opines that economic utility of the futures market in times of shortages is enhanced, in so far as it discourages hoarding which in turn dispels the widely held misconception that commodity futures markets aggravate rising price trends through speculative hoarding. Finally, in the light of a detailed investigation and analysis, a few suggestions have been offered to improve the mechanism of the cotton futures market.


An attempt has been made in this paper to study the pricing strategy adopted by 12 categories of retailers; grocery and food stores; general/variety stores, medicines/chemists, hardware, cloth stores, readymade garments, books and stationery, electric goods, crockeries and household equipment, shoes and boots, cycle and autoparts, and utensils. Three hundred and fifty retailers from selected towns of Madhya Pradesh responded to the questionnaire. It was found that high price and low sales were rejected by retailers of all categories. The hypothesis that the nature of merchandise influences the pricing policy of retailers was proved. The author concludes that it is not possible for retailers of different groups to follow similar pricing policies since problems of each trade are different.


This study examines the existing market
system of seed-potato and off-season tomatoes; studies the various cost items of grading for these; and examines whether grading of these two crops is economically advisable. Data were collected by means of interviews from 25 small, 16 medium, and 9 large farmers in the case of seed-potato and 27 small, 15 medium, and 8 large farmers in the case of off season tomatoes. The crop season 1974-75 has been considered here and the place of study is Shilaroo and Sapron valley. The marketing system for the two crops are individually elaborated and explained. The authors conclude that uniform standards should be evolved by the Agricultural Marketing Unit of the Department of Agriculture for grading off-season tomatoes and agmarking should be popularized. Its usage by most of the growers is inhibited by several factors like lack of adequate infrastructure for grading and marketing and ignorance of economic benefits. The first deficiency, according to the authors, can be rectified by developing-cum-marketing agencies and the second with the help of extension education.


The study assesses the market potential; analyzes the product mix; and presents a picture of market profile and competition in Pali, a textile processing centre. Data were collected from 23 units of the industry with the help of structured questionnaires. The dyes market in Pali was sizable and competitive and providing a wide choice for the consumers. The small scale sector was at a disadvantage when compared to the organized sector which had a good reputation owing to its size, quality, and policy. Though the small scale sector's quality of products was good, consistency of such a good quality was highly doubtful. The average prices of all series of dyes were competitive to the organized sector's prices, which the author terms as oligopolistic leadership condition in the market. The author finally states that the small scale sector can improve its share by adopting other price strategies.


This volume includes nine research studies conducted from 1973 to 1976. The first two projects examine the structural aspects of advertising. The next three projects examine and evaluate the moral and ethical aspects of advertising from the viewpoint of audience. The sixth study investigates the media awareness among people, measures the effectiveness of various media, analyzes reading and listening habits of urban and rural people, and understands the media behaviour of the people with special reference to tea brands. The seventh and eighth projects concentrate on the evaluation of promotional efforts of the financial institutions and T.V. set manufacturers respectively. The last project studies the operational and managerial aspects of Indian advertising agencies in so far as they relate to their dealings with clients and advertising planning.


This paper examines the arrivals and price behaviour of apricots, plums, and peaches in the Simla city market. Data on daily arrivals, sales, and prices for the 1974 season were obtained from the office of the Simla market committee. It was found that, in addition to the highly perishable nature of stone-fruits, small quantities of the produce and the immediate need for cash by the growers were largely the causes for hurried sales in the local market. Examination of
the demand function revealed that price had negative and statistically significant impact on the quantity demanded by wholesalers/retailers. Hence, increased supply of these fruits would be sold at substantially lower prices and affect returns adversely. The authors suggest that growers should be advised and guided to harvest their fruits at the optimum quality of maturity, along with quick transport facilities and careful handling of the fruits.

Organization and Administration


This paper highlights some of the factors that hinder good human relations in Nigeria’s work situation. These are bad examples from top officers, ineffective performance arising from overstaying in top positions, and poor supervision. It recommends better supervision, promoting capable officers irrespective of actual requirements, and rotation of headships of ministries and corporations. A readjustment in salary structures and narrowing of the gap between the highly paid and the lowly paid are other recommendations.


This paper views the multidimensional tasks of cooperative managers and provides an action plan for training. A systematic training programme should go a long way in achieving its targets, provided the programme has adequate training facilities, competent faculty, clear personnel policies with no dependence on the government, and proper campus facilities. It is also indicated that, while training arrangements are short of requirements, wastage of training facilities due to overlapping efforts has come to surface. A rationalization of the reasons is essential to start parallel training institutions as being due either to achieve self-reliance and meet the emergent needs of training or to misplaced thinking.


The authors examine various aspects of MBO systems and suggest new design principles which keep in view the challenges of modern organizations. MBO is designed to inculcate the human processes in an attempt towards greater achievement, commitment, involvement, and enthusiasm. It is felt that MBO will be wider in its scope and stronger in its foundation if the suggestions like training for change, simulated decentralization, and systems counselling are built into the MBO programme.


This paper investigates the multidimensional nature of job satisfaction in terms of socio-personal variables, organizational variables, and the contribution of hygiene and motivation factors. Questionnaires for measuring job satisfaction were administered to 70 male employees occupying lower and higher hierarchical positions in the public sector banks of Simla. Age, educational qualifications, and salary were found to have significant relationship with job satisfaction for employees in lower hierarchy. Contrary to Herzberg’s two factor theory, it was found that motivation and hygiene factors contributed to the feeling of satisfaction as well as dissatisfaction. Both groups of employees attached importance to good future and the satisfaction of doing useful work as important motivational factors. The fact that fringe benefits were accorded more importance by high job satisfied employees in lower hierarchy implies that productivity will be enhanced if these persons were given more fringe benefits instead of wages.

This study was carried out to explore the possible influences of occupational levels, alienation, and security on job satisfaction of blue-collar workers. The sample consisted of 100 supervisors and 100 rank-and-file workers. The measuring tools were the S-D Employees' Inventory, the Alienation Scale, and the Security-Insecurity Inventory. A $2 \times 2 \times 2$ factorial design was used. Analysis of variance was applied. Significant $F$ ratios were obtained for occupational level, alienation, security-insecurity, and for interaction between occupational level and alienation.


The authors test the hypothesis that quality of organizational life does not determine the level of expectation of economic rewards. Data were collected through a questionnaire administered to 200 male lower level executives belonging to three well-known organizations. It was found that organizational culture played a significant role in determining the level of economic demands. Also, lower quality of organizational milieu led to higher level of expectations for monetary compensations because of lack of satisfaction of social and psychological needs. They conclude that the pressure on and demand for more economic compensation can be substantially reduced by incorporating some social and psychological elements in organizational culture.


This paper investigates various motivating theories and their relationships to increased worker productivity. A study was conducted to find motivable workers and to determine the actual events and circumstances leading to favourable and unfavourable motivation on the job, i.e., what effects motivation had on productivity. With the aid of questionnaires, data were collected from 50 persons in a metal working plant. It was found that employees could increase their productivity substantially if they were properly motivated, through communicating, a sense of belonging and a willingness to share responsibilities with management. This fact clearly supports other research findings that monetary rewards alone are not going to increase productivity. A consideration of the total work environment is a must to assure higher productivity from the work force.


This paper discusses long-term planning for engineering and manpower resources in an airline. Manpower planning is found to be critical in the high technology aviation industry. Similar types of exercises are carried out for planning the flight crew as well as the commercial and ground handling personnel. The author concludes that the lead time required for manpower planning is very much a function of technology, product, market, and manpower requirements.

Personnel Management and Industrial Relations


This study investigates whether there occurs a difference in job satisfaction between two groups of assembly line workers. The study was conducted in an auto company in South Bihar, having two departments: Auto I and Auto II. Data were collected with the help of question-
nairies from all workers of one shift in both departments at different times. The study has brought out the function of job pride and job status in enhancing satisfaction and favourable impact of planned job rotation on the worker response to an otherwise unchallenging job situation. The need priority model showed a qualified operation. Certain needs remained dominant even after satisfaction conditioned by certain situational factors. Out of a larger number of factors, technical training, caste, loan, previous job experience, frequency of mistakes, and feelings towards supervisors showed significant associations with need gaps. Finally, it was found that, in both plants, speed and machine control did not have direct association with need gaps even if the workers could not get rest by their advancing jobs.

91. Chattopadhyay, B.; Sharma, S.C.; and Panchal, T.K., “Trade Unions or Strike Committees?” National Labour Institute Bulletin, 3(7), 1977, pp. 291-97. This paper examines the hypothesis that trade unions in India are, at best, transient instruments of settling extreme cases of tension in industrial relations and have a long way to go before they can be expected to subserve any of the goals of the working class as a decisive agent for restructuring the quality of work place in the direction of participatory democracy. Data on trade union membership and mandays lost for 17 industries in the post-independence period were collected from the Labour Bureau, government of India. The rise and fall in trade union membership was found to have one-to-one correspondence with the rise and fall in mandays lost, thereby confirming the hypothesis.

92. Gupta, A.D.; Thomas, T.; and Saxena, S.K., “Weight Control by Statistical Methods.” Productivity, 18(3), 1977, pp. 415-24. This study designs methods of statistical weight control of detergent powder in a process industry to meet state regulations and to keep the average quantity of overpacking to a minimum. Sets of observations were taken after every half hour and pack weights were recorded. Group control charts were used for achieving weight control. It was found that the company was losing on an average 14.2 gms. of detergent powder in a pack due to wrong process setting. It is suggested that the parameters of probability distribution of the process variable (weight) should be determined and control limits fixed for effective weight control.


This book reports a short study of workers from four factories in Bangalore. The study investigates the background of the workers, their understanding of their own situation both individually and as a group or class, and their idea of a job or career. Data were collected mainly by making case studies of 104 workers from four factories — two each from the public sector and the private sector. The case studies were also filled out by observation of events like union meetings, a one-day strike, weddings, interviews with managements and outside union leaders, and odd conversations with people at factories, cafes, and homes. It was found that these factory workers had a wide range of backgrounds and castes, their incomes ranging with those of clerks and teachers. The factory workers tended to view their work as a citadel of security and relative prosperity since it offered regular work, promotion, and predictable rewards, as against the chaos of life outside the factory premises. Different types of workers with different experiences or origins or personal opinions related their idea of job and a career in various ways. Moving from job to job or learning a skill and getting promotion may add up to a career in which a man sees a pattern and meaning; or he feels pushed about by unpre-
dictable forces, his career thus being just the sum of jobs he can get, and he makes a life for himself as best as he can. The author thus matches first hand autobiographic material in his case studies with large scale objective information about the Indian economy and management practices.


This paper reviews the development of worker participation in management from experiments in participative management, leading to the new scheme introduced following the 20-point economic programme. It emphasizes the need to give a fair trial to the new scheme. Many suggestions have been made for successfully implementing the scheme.


This paper critically appraises various methods for performance evaluation, proposed and prevalent. The author's experience in the application of some of the methods in Indian industry is presented briefly. A rational approach to objective evaluation of maintenance performance, based on facts and analysis, will provide a basis for more efficient and effective management of maintenance function.


The authors have compared the findings of a number of studies on selection to higher occupations with the selection of students in an all-India management school. It was observed that higher occupations in India were dominated by the urban middle and upper classes at the cost of the rural and lower classes. The implications of this observation are examined from the viewpoint of social justice and equality of opportunity. A number of suggestions have been made for the modification of current selection procedures.


This paper develops a scale to determine the extent of an employee's anxiety pertaining to various components of his job. Job anxiety is defined as "a general feeling of vague fear and apprehensive mental set of the employee regarding various job-components in relation to his frame of reference or his psychological make-up." The items for the scale were first selected with the help of a questionnaire used in a pilot study of 200 blue-collar, semi-skilled personnel of a textile mill in Kanpur. Methods of scoring and norms to be followed were laid down. The job anxiety scale was tested for reliability and validity by administering it to a sample of 414 employees. A variety of statistical methods were used for testing homogeneity, validity, and reliability of the scale.


This paper analyses the problem of overtime based on information and data from leading organizations and suggests measures to solve the problem. The suggested remedial measures are: motivating employees to work efficiently during normal working time, providing group incentives, and reducing overtime by understanding that overtime is a function of a number of parameters which interact with each other. A proper planning of overtime taking into consideration its economy, control, etc., can lead to a reduction in overtime, resulting in improving the climate of industrial relations.

*Vol. 4, No. 2, April 1979*

This monograph is an account of the situation prevalent in Durgapur steel plant from December 1971 to May 1975. The fact that the plant was termed a sick unit was not due to labour indiscipline alone, as indicated by the turbulent politics in West Bengal in the late sixties which depended the problem of labour relations. Problems like sudden strikes, stoppage of raw materials inflow, and troubles arising from ovens, blast furnaces, and open hearth furnaces leading to low output and high costs disturbed the tempo of production and made the coordination necessary to run an integrated steel plant in the best of circumstances difficult. Besides this, the executives experienced a sense of frustration and despair, having lost all self-confidence and vigour brought on by the long duration of disturbed conditions and poor level of operation of the plant. The chapter dealing with the management of public sector industry contains some generalizations and conclusions of the small and somewhat typical portion of the vast public sector in the country.

**Production Management, Computers, and Operations Research**


The author determines an optimum level of inventory which can yield the maximum return on total business assets for a given volume of business. The order point and requirements planning concept suggests that when items have demand which are independent of any other item it is preferable to use order point system to minimize inventory. This concept can be applied to minimize stockholding and maximize customer service and production efficiency.


This paper suggests a revenue maximization model for determining the economic packaging frequency of jointly replenished items (foodstuffs) where items cannot be kept in stock beyond a specified time limit. The model is explained with an example.


This paper describes an inventory model which unifies the inventory problem of raw materials and the finished product for a single product manufacturing system. The product is manufactured in batches and materials are obtained from outside suppliers. The objective is to minimize the total variable costs of the system. The mathematical analysis is based on the assumption that lead time for procuring raw materials is zero. In practice this is not justified. The mathematical analysis of a single product system with variable lead times for procuring raw materials is complex, although results are likely to be similar.


This paper suggests a method for determining the optimum production quantity for a two stage production system. The method assumes that a lot size is manufactured through two production stages with only one set-up at each stage. A production lot is manufactured in a number of sub-batches of sizes which reduce the total manufacturing cycle of a production lot. The production quantity is considered optimum when the sum of all costs is minimized.

The study surveys some selected chemical units of South Gujarat for systems, policies, and procedures of inventory planning and control. With the help of a structured questionnaire and interviews, data were collected from those executives who were directly or indirectly involved in analysing and formulating, installing, and maintaining inventory management policies in their organizations. It was found that many executives did not use any elaborate and analytical method of sales forecasting owing to inadequate knowledge. Most techniques of inventory management have been used to some extent only by those organizations, irrespective of their type and size, where the personnel have formal education in management or have adequate orientation in these techniques through previous experience.


By means of an illustration the author describes a sequential decision model—the branch and bound algorithm—to arrive at optimal long range investment plans, marketing policies for new products, and procurement policies. It allows for maximum use of analysis since it follows a well-defined fixed procedure which could be computerized.


The authors consider in this paper the relevance of distributed data processing (DDP) to Indian situation and suggest how it could influence computer technology in India. The concept, evolved through the fusion of advances in technology and demands on the computer as a management tool, has been in use by some of the professionally managed organizations in the United States. Use of DDP in India has been highly recommended as being the only approach which meets the technological and social constraints including the morale of field officers of organizations.


This paper presents techniques of industrial purchasing against fixed order quantity system under inflationary conditions and volume tiring/escalation hedging techniques of purchasing in a fluctuating market. The purchasing manager’s escalation hedge decision tables are presented as ready reckoners in order to take quick decisions in capital intensive public sector and private sector units. With help of a case study, the author compares economies in purchasing policies of an item fixed order quantity system in normal and inflationary conditions. Development of an inventory control system is to be either kept aside or used as a byproduct of the suitable purchase policy selected after carefully weighing the external and internal costs. The role of the industrial purchaser becomes highly skilled and pivotal in order to generate economies in working capital.


The author discusses in detail the changing concepts and approaches to the problem of procurement and stocking of inventories which, depending on the perspective from which one is looking, could be regarded as current assets or liabilities. The importance of inventory management in India is generally discussed. The productivity of a worker depends on that of materials, particularly when the required materials are scarce. Reference is also made to the efforts...
being put in to evolve a standard glossary of terms which could provide a common frame of reference to clarify the prevailing confusion in the field.


This paper studies the general problem of underutilization of capacities in the public sector enterprises and Indian industries in general through a case study of Durgapur steel plant. The author deals at length with the problem of capacity utilization at the plant which has been ailing for nearly a decade and refers to various factors hindering its successful working. The paper emphasizes the need to utilize not only installed but hidden capacities as well.


The author contends that standardization of mining machinery and equipment would be more easily achieved if standardization is attempted from the stage of planning mine capacity and mine layout. Emphasis is given to the need for evolving common standards to the extent practicable for machinery and equipment required for a number of industries like jute, textile, mining, etc.


This paper presents power system state estimation algorithms with simple examples. Mathematical models to illustrate the static and dynamic states of estimation are given. Effects of measurement, non-simultaneity of dynamic state estimation, and bias and parameter uncertainties are discussed. Various methods of bad data analysis are also presented. More emphasis is given to a better understanding of algorithms and procedures followed.


This paper illustrates how better investment decisions relating to selection of projects can be taken by the application of mathematical programming techniques. It is possible to vary the discount rates used for arriving at the net present or terminal values with the help of sensitivity analysis. The application of linear programming provides vital information to the decisionmaker relating to the opportunity cost of funds and cash flow interactions. The stability of these factors with respect to possible changes in the costs of borrowing, availability of funds, and the cash flow pattern of projects can also be determined, thus bringing about economic reality into the decision process.


By means of an example, the paper describes the branch and bound algorithmic method to achieve the best utilization of resources—men and machines—at the lowest possible cost. The method derives its name from the sequence of steps one has to follow to arrive at the feasible solution. At every step, an attempt is made to establish a lower bound to the total cost and from there a branching out is tried to consider all possible solutions. This technique is also applied to problems of plant layout and distribution from factories to warehouses but is not, however, to be considered as a solution to all types of assignments and problems.


This paper emphasizes that the use of the computer in better management of production and inventory has been fairly well established.
The illustrative material provided at the end could be of use to cost accountants not only in judging how computers establish their relevance for the stated purposes but also how their uses can be optimal.


This paper examines capacity utilization as a measure of performance in iron and steel industry during the period 1955-66. It shows that: people as indicated by absenteeism; technology as represented by raw material quality and operating practices; and transportation as indicated by wagons of iron ore loaded have been the main determinants of capacity utilization. The models developed in this paper are static representations of dynamic systems. The belief that a combination of technical and economic factors is jointly responsible for the capacity utilization in iron and steel industry is to some extent substantiated by the findings.


This paper develops an order level inventory model for deteriorating items with a constant state of deterioration. The model is developed under probabilistic and deterministic delivery. The model can also be related to the standard model for non-deteriorating items.


This paper estimates daily closing prices of stocks through a new technique known as recursive identification and estimation. A stochastic difference model has been used in the analysis. A computer code, recursive in nature, to identify and estimate the parameters of the identified model for real time application was developed. The IBM common stock daily closing prices given in Box and Jenkin’s Time Series Analysis, and Forecasting and Control were used. It has been shown that the stochastic difference model is applicable to time series forecasting. It is also pointed out that the method is applicable for any one step ahead prediction of stock prices.

General Management:
Environment, Policy, and Planning


This paper studies the pattern of development in India during the seven year period 1960-67 covering the third five year plan and the subsequent two years in which there was considerable spillover of the third plan schemes to establish whether the pattern of investment was in favour of labour intensive industries, whether the productivity was low, and whether there was any correlation between capital intensity, wage levels, and profitability. The analysis suggests that industrialization in India has been relatively capital intensive in spite of low productivity of such investment. Though productivity of a unit of labour increases directly in proportion to the increase in capital employed per unit of labour, the productivity of a composite unit of labour and capital declines as capital employed per unit of labour increases. Wage levels are closely related to the extent of mechanization among industries. Highly mechanized industries have shown low levels of profitability.


This paper, besides giving an outline of the
frame of reference of management of education systems and very briefly discussing the theoretical orientations of conflict in organizations, locates certain conflicting situations prevalent in the education systems in India. Based on the above diagnosis, certain tangible strategies are put forth to cope with those situations. Problems emerging from the personnel function should be dealt with as far as possible on a priority basis in the greater interest of the organization.


After giving an account of the trail left behind by divisional performance appraisal and transfer pricing, this paper goes into further details in an attempt to acquire more knowledge about how people are better motivated and controlled. The general context of divisional performance appraisal and transfer pricing has been elaborately discussed with the help of examples from Indian situations. Divisional management may not be correctly reflected either positively or negatively in the profit or ROI yardsticks. The author is of the view that a forcible pursuit of this goal may cause more anomalies and tensions in the system; instead, a simple cost centre-wise management control should be sufficient. The true answer to managerial assessment rather than merely business assessment seems to lie in the application of management audit. It is important that qualitative aspects of the management process employed within the division should also be given attention.


Corporate strategy has become a widely used business concept in the industrially advanced countries of the West. The ideas on which this concept is based were evolved through field studies of hundreds of business organizations, mostly in the economically advanced countries. Some practitioners, considering the difference in the socio-economic and political milieu between developed countries and India, have expressed doubts about the applicability of this concept in the Indian context. This paper traces the theoretical origins of the concept of corporate strategy and illustrates with Indian examples that the concept is equally applicable in India.


This paper measures the extent of inequality and poverty in income and consumption with the help of available data. It is found that the attempt at planned development in India was directed to an economic structure characterized by concentration of rural holdings in the hands of a few who were also traders and moneylenders, the dominance of big industrial houses controlling production, trade, finance, etc., and the existence of a seller's market. One of the most important reasons for the great decline in the quality of human capital is probably the lack of attempt to increase salaries of teachers and doctors.


The main reasons for managerial deficiency in India lie in the existence of a great deal of diversity between values in the social system and those of the managerial system. This results in conflicts of personality in the work situation. It is necessary to evolve a conceptual framework of management which flows from the Indian experience so as to make it meaningful to the management process.

124. Institute of Applied Manpower Research, Manpower in the Power Sector—Volume 1:

This volume surveys the employment pattern and education and training of employees of various categories engaged in the operation and maintenance of 23 thermal power stations. The study projects future manpower requirements for the fast expanding sub-sector of thermal power generation and makes specific recommendations regarding manpower development and optimum utilization of personnel.


The objective of the paper is to study the changes in income distribution in India during the two decades of planning and to examine the implications of a policy for income inequality. Inferences regarding changes in income inequality are made from a number of studies. While there is near unanimity about the position during the first two plans, there is much difference of opinion regarding changes during the second decade of planning. Prospects and policy implications of economic growth and income distribution in India are also outlined.


This survey investigates the ratio of mortality in small scale industries; tests whether the rate of mortality in the small scale sector is negatively associated with size; identifies the major causes of mortality; and suggests policy measures for reducing the mortality rate and for greater sustenance of small scale units. The study is based on sample surveys of non-existing or dead units in the states of Andhra Pradesh, Kerala, and Karnataka. Data were collected during September 1974 in Andhra Pradesh, November 1974 in Kerala, and December 1975 in Karnataka.


Because of the limitations of the government in mobilizing resources for development and the magnitude of problems facing India, the role of business organizations in helping the government and society in which they operate to alleviate the country’s problems has assumed great importance. This can be done by making business organizations responsible to society through social audit. Being innovators in the chosen fields in which they operate, they are best equipped for this role. This paper analyses the mode of working of business organizations in the area of social responsibility.


This paper analyses the structure and disposition of the labour force and trends in employment of different industries and occupations. Sources of information were the Census of India and the Employment Review of 1961 and 1971. Employment in the non-agricultural sector shows a decrease as a whole which is caused by a considerable fall in the number of workers in household industries and other service categories. The other service sectors show increase in the number of workers in both non-household non-organized as well as organized parts indicating that activities under these categories are increasing. Higher education is increasing at a much faster rate than the rate at which the economy could absorb. This has caused an imbalance in the supply of and demand for workers with requisite skill.

129. Mukherjee, S.K., “Value Analysis: Highlights and in Practice,” Management Accountant, 12(7),
This paper details different aspects of value analysis in the Indian context and describes a few case studies. Value analysis, if implemented in an objective manner at the enterprise level and for society and community, leads to cost saving, improvement, and increased efficiency, and can offer better quality goods and services at low prices to consumers. It will also release creative and real resources in the economy for utilization in more productive channels in the most efficient manner.


This volume is a collection of papers on economic policy, industrial policy, and administrative change. The section on economic policy deals with incomes policy, approach to employment, and incentives and economic growth. Lack of an appropriate framework of policy has resulted in most of the failures of the country. The section on industrial policy deals with problems relating to industrial licensing, Monopolies Act and industrial structure, while the section on administrative change deals with various aspects of the administrative inheritance which India had, its advantages and disadvantages in terms of the requirements of development with democracy, and special problems like political rights of the public sector employees.


This paper deals with the urban unemployed in the age group of 19-59 years. Observations made regarding employment, growth, and industrialization indicate that growth emerges as the dominant variable affecting employment with severe implications if it is below a certain level. The relative share of small scale industry emerges as the next variable even though a drastic shift in the existing balance between large scale and small scale industries appears to have inherent limitations.


The authors analyse intertemporal shifts in the spatial organization of industries to understand the process of industrialization. The methods of absolute, relative, and marginal shifts have been explained. It is found that industrialization is accompanied by regional convergence. The most important factor influencing intertemporal shifts in the manufacturing employment are from the demand side. Since the agriculture sector of India generates the largest proportion of income, regional inequalities in industrial employment are linked with differences in agricultural productivity. It is essential that government concentrates on the reduction of interregional disparities. The authors conclude that the federal structure may be mainly responsible for the occurrence of convergence in terms of industrial employment.


This paper develops a convergent cutting plane algorithm for the rectilinear distance location-allocation problem which is basically a non-convex problem. The method is illustrated by an example. Computational times are given both for small and large sized problems and are compared with results reported in the literature.


This paper studies the impact of indirect taxes on all major commodities. Indirect taxes for analysis at macro-level include excise and custom duties at central level and sales taxes and electricity duty at state level. Data for this
purpose were collected from 20 industries for 1972. It is found that there was no marked distinction between priority and non-priority sectors so far as incidence of indirect taxes was concerned. All primary raw materials like steel and aluminium bore a high element of indirect taxes, so also certain consumer goods like cigarettes and matches. If a reduction in price has to be brought about by reducing taxes, only a reduction in the tax on final products could achieve such a result and not by reducing taxes on inputs except perhaps in engineering goods.