Improving productivity

Productivity Engineering and Management
David J. Simmonds
McGraw-Hill; 1984; 547pp; £31.95

The author explains in the opening few words that a nation’s efforts to improve productivity must first begin with basic manufacturing or service organisations. There is no doubt, as the author emphasises, that there are many pitfalls when talking glibly about improvements in productivity, and this book certainly does not appear to underestimate the problems associated with the subject.

The book has been written by an academic and I believe it will prove to be an excellent text book for students who are deeply involved in this subject. Having been compiled and published in the States, it has, of course, been based on USA companies and their facts and figures, but this does not detract from the detailed approach to the subject and the message it portrays. There does not appear to be any area that impinges upon the word productivity that has not been considered and included in the text.

Whilst being a must on the library shelves of seats of learning, it is a book that should be read by a far greater public, from industrialists and accountants to civil and public servants, for it is a subject that effects all who endeavour to be more efficient, more profitable, and more productive.

At the end of each chapter a list of questions tests the reader’s understanding and retention of the subject. There is a list of references augmented by a comprehensive bibliography at the back of the book and a glossary of terms is also given.

The final chapter of the book dwells on the productivity improvement strategies around the world, although there is very little mention of the UK apart from work that has been carried out by Sheffield City Polytechnic on the productivity of selected industries, including British Steel. It does go on to say that there appears to be a strong emphasis in West Germany on production engineering being used to increase productivity.

This is a very comprehensive, well-presented book, full of facts, examples, tables and data. It is not an easy book to read as it does require a certain amount of effort, but I feel sure that those who are prepared to make the effort will, on completion, be very knowledgeable on the subject.

R D Hind

Library and Information Services Committee

Japanese approach to FMS

Flexible Automation in Japan
J Hartley
IFS Publications; 1984; 264pp; £25

Japan is now the largest user of robots, having about 65% of the world’s robot population. Its 200 robot manufacturers produce 17,000 annually. Within the next five years, it is forecast that robots capable of decision making will be a common place on Japanese production lines.

To enable production engineers outside Japan to appreciate these rapid developments, John Hartley has compiled volume one of a significant papers published over the past three years based on personal observations and experiences of Japanese industry.

This collection of papers, all of which are practically orientated, have been grouped under five main headings: the Japanese scene; robots; assembly; FMS; R & D, together with a valuable section which specifies all known Japanese robots currently manufactured and their suppliers in the US, the UK and Europe. Within these groupings are case studies covering a variety of industrial applications; the welding of motor cycle frames; the assembly of fuel gauges; the building of wrist watches, integrated circuits and electric motors. Included under the heading R & D are such topics as increasing the reliability of assembly automation; welding sensors; and how voice and lasers can raise the distribution efficiency in bulk chain stores.

‘Flexible Automation in Japan’ is well-illustrated and is intended to help managers and engineers who may be involved in the planning and installation of robots and to all who wish to gain an insight into what makes Japan’s manufacturing industry so strong.

A Hague

Library and Information Services Committee

Product design management

Managing Product Design
Mark Oakley
Weidenfeld & Nicolson; 1984; 152pp; £11.95

The function of management, product design and production has always been difficult to unify, one reason being due to the way in which the education of young people entering industry is carried out. The author has produced an extremely useful book showing how these difficulties can be overcome; he has demonstrated this by the selection of material he sets out to discuss and this extends to the contents given at the beginning of the book—this in itself indicates a lively appreciation by the author of what is demanded by the subject. In fact, reading of the book by those who have a long experience in the business is a worthwhile exercise, since all those many facts collected over a period of years become connected and ordered, whilst, at the same time, new, up-to-date, effective practices would be shown to be logical developments.

Having commented upon style, some attention should be given to subject matter. This is obviously based upon a considerable range of reading with engagement in research and travel in those countries having relevance to the subject. This background of experience has been used consider ably and confirms the authority with which the author deals with his subject.

For students, whether for general or specific reading, the book is recommended. There are obvious signs that various topics have been refined by a constant and careful observation of students’ reactions, both from the teaching aspect of the author’s experience and the use of the case study approach. One example of the lucid way in which the author deals with a difficult point regarding private invention is given in the last paragraph of page 38. In that paragraph are no less than seven important points relating to the acquisition of invention and the paragraph is completed by one statement which virtually covers all points: “As a general rule, managers should insist that an outside inventor always files an application for a patent before disclosing his idea.”

B A Coote

Library and Information Services Committee

How to manage a project

Project Management—3rd edition
Dennis Lock
Gower; 1984; 290pp; £17.95

Although project management, as a discipline, must be as old as the Pyramids, modern mathematics and statistics based methods have only been employed by it in the last 45 years or so. The results of forward planning, the interaction of capacities, potentialities and achievements of skills, materials and resources have been completion to specification, on time and to budget.

Production engineers are particularly aware of the need to be well informed in this sphere of engineering management, which deals with the vital aspects of coordination. Hence, the Institution’s Code of Practice ‘From Concept to Production’ and ‘Display Systems for Production Engineers and Managers’. It is not only NASA’s Space Shuttle which requires skills and activities demonstrated by Mr Lock, but all micro projects which so often make up the daily routine of the production engineer. Therefore, this third edition, with its up-to-date revisions of Mr Lock’s book, is justified.

The company organisation, which is described as an example, is taken without regard to the many British companies which suffer still from the disease of ad hoc compromise and ‘make-do’ organisation. However, the emphasis on the project cycle does correct many misconceptions. Lord Lock is right to define the classification of estimates. Engineers will know that of the three variables ‘quickest’, ‘cheapest’ and ‘best’, only two will ever be maximised simultaneously.

For those who have been involved in projects both small and large over extended periods, this is a readable book and a very desirable aide-memoire. To the younger practising engineer, it is recommended for its common sense approach, excellent data and good illustrations.

A list of references might be a useful addition to the next edition.

G S Effer

Library and Information Services Committee

The Production Engineer — October 1984