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Book Review of Economics of advanced manufacturing systems,

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Thought provoking contribution

Economics of advanced manufacturing systems, *edited by Hamid R. Parsaei and Anil Mital. Published by Chapman and Hall, London, UK. 1992. £45. 373 pp. ISBN 0-442-31516-3.*

This book is a collection of 20 refereed articles which are grouped into five parts. It addresses issues which are of fundamental importance to manufacturing organisations all over the world. Recent advances in manufacturing technology have sharpened the focus on the need for approaches to financial modelling which represent the costs and benefits of such technology in as meaningful a manner as possible. This book represents a valuable contribution to the body of knowledge in this field.

In their preface to the book, Parsaei and Mital refer to the changes in manufacturing industry which have been seen as a direct result of developments in technology. These changes have indeed been dramatic. The book goes on to address various issues associated with non-traditional methods of evaluation on the grounds that 'it is quite obvious that the practice of traditional economic analysis methods should change too.' The rationale for the book lies in this assertion that change is needed. There is no attempt to justify why change is necessary or to expose the implicit weaknesses of traditional approaches to capital expenditure justification. Are traditional approaches to capital investment appraisal inherently flawed, or is it the case that these traditional methods have been seriously misapplied by practitioners in industry? This question is fundamentally important to the scope of this book, but does not appear to be addressed in any purposeful manner.

Chapter 1 sets the scene in terms of both scope and style, and serves a very useful purpose in providing an overview of various economic and financial justification methods for advances automated manufacturing. A collection of interesting and thought provoking approaches are subsequently presented. However, the industrial context in which the techniques need to be applied is given only scant recognition. The role of the financial justification techniques in the overall investment appraisal process is similarly afforded no more than cursory comment. These factors lead one to the conclusion that the divergence between academic theory and industrial practice, often discussed in the literature, continues unabated. Empirical evidence indicates that companies tend to revert to crude, short-term approaches to financial justification in times of economic uncertainty. The value of much of the contents of the book to industrial managers responsible for capital budgeting in the current climate must, therefore, be seriously questioned.

As far as researchers in the field go, the book should prove very valuable. There is much food for thought throughout, and many valuable insights into ways of potentially overcoming current hurdles are provided. The excellent presentation and style of writing combined with the sensible division into logical sections facilitates the book's ease of reading. The work which has resulted in this book represents a significant contribution to research into the

economics of advanced manufacturing systems. One must hope that the ultimate result of these endeavours is more effective use of these technologies and improved performance of manufacturing companies.

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