LOGISTICS – THE TIME IS RIGHT


As should be expected for a guide produced by a working party consisting of members with hard, in-depth, hands-on, real experience of the subject, it is comprehensive and concise.

Logistics is defined as the art of moving and supplying troops and equipment. In the battle for the market place, it has acquired the more civilian usage as describing the management, right from the initial supply, through manufacturing, and to the customer, of materials and goods. The guide uses the definition as applied to business as the art of getting the right goods, in the right quantity, to the right place, at the right time, and at the right cost. Further to this it defines the role of Logistics Engineering as being to provide logistics capabilities that achieve 100% parts and/or products availability at the point of use and at minimum cost. No less then the El Dorado long sought by everyone involved at any level in manufacturing. But, should that be attained in a business, it does not automatically make the product itself more profitable. That product has to be in demand and at that price. However, the demands for, and the profit margins associated with, a particular product can be dependent upon meeting promise dates (the right time), and control if costs (the right cost): unless, of course, a monopoly exists. Yet even here disappoint a captive customer too much, or too often, and alternatives will arise. The guide sets out the strategy (another military term) for the successful running of the whole business, irrespective of size.

The introduction takes only four pages. It contains passages that should be printed on rice paper in letters 10 feet tall (or rather 3 metres). These then to be force fed to everyone involved in policy making in production engineering who either does not recognise their virtue, or does not work at implementing them. For example ‘Establish the best working partnerships with dependable suppliers for mutual benefits’, such an approach creates a culture of continuous improvements that leaves companies far more resilient and less vulnerable to change.

How to achieve the aim of right goods, right place, and right time is discussed in the section entitled ‘Principles and Theory of Logistics Engineering’. It is laid out in a style that makes for clarity and impact. The concept is developed that logistics engineering is the total supply chain, involving a commitment to total quality, elimination of waste and the complete involvement of the work force. The processes are interdependent. Logistics engineering can be utilised to create improvement throughout. ‘Checklists’ are given in the sections that summarise the essence of that section. Companies could do no better than reproduce each of them and issue them to the relevant department as being company philosophy and standard operation policy.

Having given the reasons for taking certain actions, the technologies to be used to enable companies to take those actions are detailed. Covered are the full range of production processes, storage, transportsations, planning, scheduling and control (all computer aided). Just in Time (JIT) is included. That has been hails as a panacea to all manufacturing problems. It is one part of logistics engineering.

Good performances from the logistics processes can provide that competitive edge, and examples of how several companies have implemented the concepts are given.

1992 and Europe looms ever nearer. How British manufacturing can succeed in a ‘Europe without frontiers’ are briefly discussed. Policies to deal with it are outlined. The warning is given that all the aspects of logistics must adopt a European perspective now.

The Working Party close the guide with a question. If Production Engineers in the Western economies continue to believe that production is only about 10% of product costs generated by the shop floor, will it be possible to sustain competitive manufacturing enterprises? It will be those companies that arm themselves with the appropriate mix of Production Engineering skills and Production Technology (Logistics Engineering?) that will create those competitive advantages that will ensure survival. Darwin put forward a concept that said that only the fittest survive. This will never be more valid for engineering than in the struggle that lies ahead. Any business that fails to seek and then have the best advice possible, fails its workers and shareholders.

The guide is a must.

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GO WITH THE FLOW


John Burbidge has produced another excellent book on Production Flow Analysis (PFA) for the Oxford series on Advanced Manufacturing. This book should be essential reading for any manager responsible for production, as well as manufacturing students.

Burbidge developed PFA when he observed that traditional costing and classification systems were not really effective in finding groups or families of parts for group technology. He claims that they do not take into account tolerances, quantities, materials or component size. PFA differs in that it analyses the process planning routes rather than the design drawings, and therefore considers the actual machines which produce the parts. Further, a PFA analysis considers existing manufacturing plants, and it is noted that in all cases to date the improvements in throughput time have been achieved without the need for investment in additional machine tools. This is because it is nearly always possible to re-allocate parts to similar alternative and available machines without loss of efficiency.

The major part of the book is devoted to a detailed description of PFA and its constituent parts. It uses examples effectively to illustrate the benefits arising from the technique. A chapter is devoted to each of the following sub-parts of PFA:

- the data required to run PFA, which most companies will have on file
- Company Flow Analysis (CFA), which divides large companies into product organised factories
- Factory Flow Analysis (FFA), which identifies the departments which are equipped to complete each component
- Group Analysis (GA), to form the PFA groups
- Line Analysis (LA), to analyse the flow of materials
- Tooling Analysis (TA), to find tooling families in order to reduce set up times

The organisation of the assembly department is also discussed to indicate how assembly groups are normally more effective than progressive batch assembly and machine-paced assembly methods. Finally, production control methods are considered and the concept of Period Batch Control is introduced as a simple and effective system for use with GT. The Economic Batch Quantity (EBQ) method is described as ‘pseudo-scientific nonsense’.

PFA comes across as a relatively simple and low cost technique which ought to be considered by any company which wishes to improve its production methods quickly. In fact, Burbidge puts forward the hypothesis that PFA, which in effect couples GT with JIT, is ‘essential’ for batch and jobbing production companies which want to survive in the future.

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