

Management strategies: Just-In-Time

South African business's current emphasis on productivity has given rise to new management strategies on the manufacturing scene. One of these is the JIT (Just-In-Time) system, imported from Japan. JIT aims to reduce inventory and stock to a minimum because these are very expensive to any business. Thus raw materials are planned to arrive at the factory "just in time" to keep production from stopping. Also the stocks of finished goods are kept to the minimum necessary to satisfy customer requirements. In order to achieve these objectives far-reaching changes are required in every sphere of the company, and this may also profoundly affect working conditions for all employees.

Another name sometimes used for JIT is "Zero-Inventory" production. Cutting inventory unmask any "bottlenecks" which must be corrected immediately so as not to halt production. Other results include:

- * improved quality
- * faster reaction to the market place
- * reduced working capital
- * enhanced productivity

Some of the key features of the JIT system are: (1)

1. "Total quality control": Quality control is shifted from inspections at the end of the production cycle to quality that is "built in" to the product. Defects must be corrected on the job.
2. "Kanban": The Kanban system allows work-in-progress to be pulled from work station to work station. The Kanban, a card, is used to show when the next station is ready to receive the work item: until it is empty, the parts cannot be passed on.
3. "Zero inventory": Inventory is cut to a minimum so that stock arrives from the supplier directly into production. This system eliminates the tying up of capital in stock, reduces the need for space and warehouses, allows production units to be placed close together to shorten throughput time and allows forecasting to be linked accurately to demand.
4. "Preventive maintenance": Responsibility for machine maintenance is largely given to operators, and specialist maintenance departments are situated on the shopfloor to eliminate any

delays in repairing plant or machinery.

5. Product standardization: The parts used in a production process are standardized to a minimum to allow for efficient changeovers and reduced set-up times. The idea is to produce few variations with broad appeal, rather than custom make every product according to the customer's specification.

JIT - or aspects of it - has been introduced in various South African companies. GEC claims to have improved quality and reduced rejects by 40% to 1.5% since introducing JIT. MSN Products, an Altech company, claims to have increased employee output by 38%, reduced inventories by 26% and cut rejects by 75%. Other companies like Toyota, Rowen Engineering, Fedmech and Wilson Rowntree report similar achievements. (2) Although very few companies have actually implemented JIT, it is receiving a lot of attention from managements because it represents a non-capital method for improving both productivity and profits.

Implications for workers

South African trade unions have not yet responded to this new manufacturing system largely because its application is thus far, so limited. But it remains important to anticipate the potential effects of JIT on workers.

One of JIT's requirements is a flexible workforce. By this is meant that workers must be multi-functional and able to do a number of jobs. If the production process lends itself to rearrangement, work stations are laid out in U-shaped cells, with each cell forming a discrete unit. Within each cell, workers should be able to do all jobs so that the production flow is as quick and smooth as possible. In other cases, workers are directed to other work stations if extra work is scheduled.

This means that job descriptions and evaluation systems must be more flexible. South African trade unions have often insisted on rigid job descriptions, and higher pay for workers who stand in for someone on a higher grade. Therefore this issue is likely to generate worker opposition.

The JIT system also encourages problem solving to be carried out regularly in each cell of workers. Problem solving is limited to issues of quality, maintenance and production as regards the cell's own work. While it provides a forum for workers to con-

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tribute to solving production problems, it does not give workers any more say in the organisation of production. And it is clear that trade unions do want to be consulted on a wide range of production related issues, as is shown by a recent statement by Jay Naidoo, General Secretary of Cosatu:

We are not interested in the kind of paternalism where a decision is taken, for example to introduce new technology, and management comes to the union to discuss the effects, ie. retrenchments. We want to be consulted first. (3)

Some American trade unions have expressed concern over worker problem-solving groups. They have isolated a number of potential dangers, namely:

- * workers are made to work harder
- * management uses workers' knowledge of the job to its advantage
- * management bypasses the union
- * the size of the workforce is held down (4)

It is unclear whether these effects will be the outcome of JIT. JIT is dedicated to eliminating waste and rationalising production, which may well result in retrenchments in the present South African recession. But JIT is based on the pull system (kanban) which may eliminate some of the places where workers are pressurised on the production line. It is clear that one of the primary objectives of JIT is to improve labour productivity by making workers multi-functional and rearranging factory layout to eliminate lost time. Thus JIT could change the nature of factory life and will inevitably draw a trade union response.

Footnotes:

1. Key concepts are taken from: R J Schonberger, "Just in Time", Institute of Industrial Engineers, Atlanta, USA
2. Financial Mail 16.5.86, p83
3. Finance Week 22-28.5.86, p453
4. American Labour 29, p5

(Technical Advice Group, Johannesburg, July 1985)

Postscript: Smiths Manufacturing announced its intention to install a Hewlett-Packard JIT computer system in their Jacobs factory. One of the benefits will be to make scheduling more efficient so that over-time working can be reduced. (Business Day 24.7.86)