



Management Accounting – Performance Evaluation

Traditional accounting methods still have their place in a modern manufacturing environment. **Grahame Steven** examines the limitations of backflush accounting.

Global contact details continued from page 41.

■ India liaison office

DBS Corporate Centre
Second Floor
Raheja Chambers
213 Nariman Point
Mumbai 400 021
E: india@cimaglobal.com
T: +91 (0) 22 5630 9200

■ Malaysia Division

123 Jalan SS6/12
Kelana Jaya Urban Centre
47301 Petaling Jaya
Selangor Darul Ehsan
E: kualalumpur@cimaglobal.com
T: +60 (0)3 7803 5531/5536
F: +60 (0)3 7803 9404

■ Republic of Ireland Division

44 Upper Mount Street
Dublin 2
E: dublin@cimaglobal.com
T: +353 (0)1 676 1721
F: +353 (0)1 676 1796

■ Singapore office

16 Raffles Quay,
Unit 33-03 B
Hong Leong Building,
Singapore 048581
E: singapore@cimaglobal.com
T: +65 6535 6822
F: +65 6534 3992

■ South Africa Division

Postal: PO Box 745
Northlands 2116
Physical: Second Floor
Thrupps Centre, 204
Oxford Road, Illovo
E: johannesburg@cimaglobal.com
T: +27 (0)11 268 2555
F: +27 (0)11 268 2556

■ Sri Lanka Division

356 Elvitigala Mawatha
Colombo 05
E: colombo@cimaglobal.com
T: +94 (0)11 250 3880
F: +94 (0)11 250 3881

■ CIMA Zambia

Box 30640
Lusaka, Zambia
E: lusaka@cimaglobal.com
T: +260 1290 219
F: +260 1290 548

■ CIMA Zimbabwe

PO Box 3831
Harare, Zimbabwe
E: harare@cimaglobal.com
T: +263 (0)4 250475
F: +263 (0)4 708600/
720379

The traditional approach to manufacturing, which originated in the Victorian era, emphasises long production runs to maximise the use of resources. While this increases efficiency and reduces manufacturing costs, it creates stock, since production is not triggered by customer orders. The method produces goods irrespective of whether anyone wants them or not. But stock costs money, since it has to be stored and insured. Stock also has a sell-by date. And large stock holdings may also conceal other problems – poor planning and inefficient production processes – for example.

This approach was challenged by methods developed in the fifties and sixties by Japanese companies and later adopted by western firms – particularly total quality management and just in time (JIT). The modern approach can be encapsulated in two words: customer focus. Although this sounds like common sense, it has significant operational implications and requires a complete culture change in many instances, which can be hard to achieve.

JIT is based on the principle of giving customers what they want when they want it. Goods are produced only when they have been ordered. This approach also recognises that value is added only during manufacturing, so it's dedicated to the elimination of non-value-adding activities such as storing raw materials. As a result, stock is considered to be a bad thing.

Although stock may be held for good business reasons, the JIT philosophy states that it must not be held to meet the deficiencies of the organisation's production and planning systems. But it is important to remember that it's impossible for most organisations to hold no stock all of the time.

Do these new approaches to manufacturing have significant implications for conventional accounting systems? Based on standard costing, such systems are sequential tracking methods. When raw material is delivered to the factory, a "goods received" note is raised to debit raw materials and credit purchase accruals – the supplier's invoice is matched against the accrual at a later date. Raw materials are then released to the factory and an accounting entry is made to record this movement to work in progress. The factory eventually produces finished goods and once again an accounting entry records this transfer. At a later date the final accounting entry is made after the finished goods are sold. The system will also account for substandard production, reworked materials, stock returns and so on.

Conventional accounting systems give complete visibility over stocks held in the factory, provide comprehensive control

information and enable the calculation of manufacturing variances. But these systems are expensive to operate and are inappropriate for a JIT manufacturing environment, according to some commentators.

The main reason why they are deemed unsuitable is that JIT implies that little or no stock will be held by a company, so why would it be necessary to have a detailed view of minimal stock holdings? The factory also must "get it right first time" to allow the company to provide goods to its customers within an acceptable period. Assuming that any previous problems in the manufacturing process have been addressed, advocates of a new accounting system believe there is consequently less need for control information in a modern production facility.

An approach called backflush accounting (BA) has been developed to meet the requirements of JIT manufacturing. The most important point to appreciate about BA is that it isn't a sequential tracking system. Block entries are made at the end of

Backflush accounting can be appropriate for a well-run modern factory, but problems will inevitably arise, since no system is perfect

each month based on the standard costing system to record the dispatch of goods, the manufacture of goods and the use of raw materials. BA does not account for individual transactions. It also assumes that there is no requirement to calculate manufacturing variances, because a modern manufacturing environment will produce goods to predetermined specifications. Compared with conventional accounting systems, BA is cheap to run, too.

International Decorative Products (IDP) produces a range of paints in separate production lines at its factory. Last year the company entered into JIT arrangements with its suppliers and customers as part of a programme to modernise its management practices. The accounting department, after evaluating a number of BA methods, decided to introduce BA using the following trigger points for transactions:

- Accounting entries are made when materials arrive in the factory from suppliers. "Goods received" notes are raised.
- Other accounting entries are made at the end of month at standard cost on the basis of total sales of products. The



1 COST DETAILS FOR FORMULA ONE

Raw material D735: 0.6kg @ £1 per kg	£0.60
Raw material R128: 0.4kg @ £3 per kg	£1.20
	£1.80
Expected yield:	<u>90%</u>
	£2.00
Production overheads:	<u>£0.40</u>
Standard cost per kg:	<u>£2.40</u>

NB: losses occur owing to the nature of the production methods used in the process industry. For more information about material mix and yield variances Read "Piece of cake" (see "Recommended reading" panel) .

2 FORMULA ONE ACCOUNTS

IDP purchased £203,000 of raw materials with a standard cost of £204,000 and dispatched 100,000kg of paint to its customers in September:

Cost of sales	
Sept sales: £240,000	
Production overheads	
	Overhead recovery: £40,000
Raw materials	
Sept "goods received" notes: £204,000	Sept sales: £200,000
Purchase accruals	
Sept invoices: £203,000 Price variance: £1,000	Sept "goods received" notes: £204,000
Trade creditors	
	Sept invoices £203,000

accounting entries for raw materials are made directly to the raw materials account, since all orders are dispatched to customers by the end of the month – ie, the company should not hold any work in progress or finished goods.

Panel 1 contains details of Formula One, one of IDP's key products. This is made in its own manufacturing cell to avoid contamination with other products. The accounts in panel 2 indicate that the company held £4,000 of raw materials and no finished goods at the end of the month. But is this correct? The company should not be holding any stock. A time-consuming stock check must, therefore, be conducted to determine whether these materials exist or not. If it can't find them, or less than £4,000 is held in stock, this indicates a problem in the production process.

Why did the factory use more raw materials than expected? Was it a consequence of substandard raw materials, differing physical properties of raw materials, production errors etc? Unfortunately, BA doesn't provide any insight into this problem, which could cost the firm thousands of pounds until it's solved, since no material mix and yield variances are available. Even after it is solved, there's still no mechanism in place to analyse future problems. Equally, if the stock check reveals more than £4,000 of raw materials, the company does not have ready access to information that will explain why the factory operated more efficiently.

What would help to provide answers to these questions? A comprehensive variance analysis using computerised factory accounting/information systems that track stock from receipt to dispatch. Proponents of BA argue that other mechanisms can be used to highlight production problems, but it's hard to envisage how simple non-financial measurement systems can provide appropriate control information in a technically demanding production environment. It's also worth remembering that many factories now have computerised systems that hold detailed information about stocks and production. What's the benefit of having no link from the factory system to the standard costing system to provide comprehensive financial control information?

BA can provide an appropriate means of accounting for a well-run modern factory, but problems will inevitably arise, since no system is perfect. Although sequential accounting systems are more expensive to run than their BA equivalents, perhaps it would be wise to retain them until we live in a perfect world. **FM**

Grahame Steven is a lecturer at Napier University, Edinburgh.

P1 Recommended reading

B Scarlett, *Management Accounting Performance Evaluation Study System* (2005 edition), CIMA Publishing, 2004.

C Drury, *Management and Cost Accounting* (sixth edition), International Thomson Business Press, 2004.

C Horngren et al, *Management and Cost Accounting*, FT/Prentice Hall, 2002.

R Kaplan, A Atkinson, *Advanced Management Accounting* (third edition), FT/Prentice Hall, 1998.

See also G Steven, "Piece of cake", *CIMA Insider*, April 2001.

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