

Discussion of performance management*

Comments by C.L. Workman-Davies†

The authors and Iscor's management are to be congratulated on an interesting and detailed paper that discloses Iscor's philosophy, strategy, and action concerning what can also be termed productivity improvement. Aside from the pioneering work of BEEFORTH and DICKS¹ regarding Dynamic Profitability Analysis at Vaal Reefs, there appears to be a shortage of papers on this topic from the mining groups. Moore and Gibbs² state: 'Although the Group (Gold Fields of South Africa Limited) has many impressive strengths, the ability to make significant strides in productivity improvement has, up until now, not been one of them. However, once the need had been identified, a strategy was formulated and an action plan implemented'.

One might agree with the following statement of Dr F. Jacobsz³, Chairman of the Committee for Economic Affairs of the President's Council: 'in the end one comes to the conclusion that in South Africa we tend to pay a lot more lip service to productivity than actually applying specific techniques to effect change'.

Sutermeister's productivity circle, which Iscor uses (Fig. 3 of the paper), can be compared with Van Loggerenberg's⁴ principal components of productivity improvement (Fig. 1 of this Discussion). In terms of Fig. 1, it would seem that Iscor is concentrating on the soft components of productivity improvement. This is all very well and good, and essential, but how does Iscor know what effect it is having? How does Iscor measure its productivity to know whether its performance is improving and by how much, and what contribution this is making to profitability?

This aspect was not addressed in the paper, and yet it is an important hard component of productivity improvement. Drucker has said, 'Without productivity objectives, a business does not have direction. Without productivity measurement, it does not have control'.

Although several models of productivity measurement have come and gone in times past, the state-of-the-art methodology is now Deterministic Productivity Accounting. The basis for the methodology originated with B.J. van Loggerenberg, and some development was achieved while he was working with the National Productivity Institute (NPI, Pretoria). This is implemented in a computer model, REALST (Resource Allocation

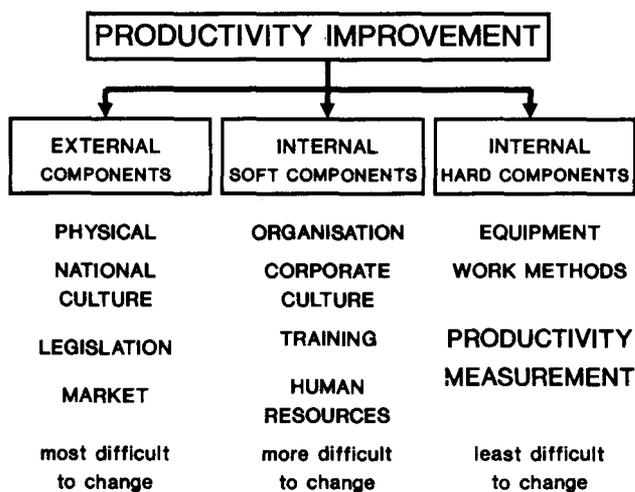


Fig. 1—Components of productivity improvement

Strategist), which is available from NPI. Van Loggerenberg has continued developing the methodology as a private productivity management consultant, and this is implemented in computer model FPM (Financial Productivity Management), which is available from Gauss Computing.

The methodology is based on the relationship

$$\text{Value} = \text{Quantity} \times \text{Price},$$

and this permits a change in profit from one time period to another, or budget figures, to be split into what was derived from productivity changes and what was caused by changes in price recovery. This is shown here notionally in Figs. 2 and 3.

It is understood that Iscor does have a productivity measurement model, which was implemented recently on the computer mainframe, known as HUTOS (Hulpbronne Toewysing Strategie). Very little else has been published or is known about this implementation. Iscor has a process for the improvement of performance (Fig. 8 of the paper), but this could probably be improved by a consideration of Van Loggerenberg's productivity management journey (Fig. 4 of this Discussion).

It would be both interesting and appreciated, and it would also help to complete their paper, if the authors would reply to the points raised.

References

1. BEEFORTH, C.G., and DICKS, K.V. Dynamic Profitability Analysis as applied at Vaal Reefs' East Division. *Proceedings, 12th CMMI Congress*. Glen, H.W. (ed.). Johannesburg, South African Institute of Mining and Metallurgy, 1982.

* Performance management—the total integration of a company's management systems, by J.P. Deetlefs, C.O. Esterhuysen, and C.A. Wessels, which was published in this *Journal* in July 1989 (vol. 89, no. 7, pp. 201-210).

† Department of Mining Engineering, University of the Witwatersrand, P.O. Wits, 2050 Transvaal.

© The South African Institute of Mining and Metallurgy, 1990. SA ISSN 0038-223X/3.00 + 0.00.

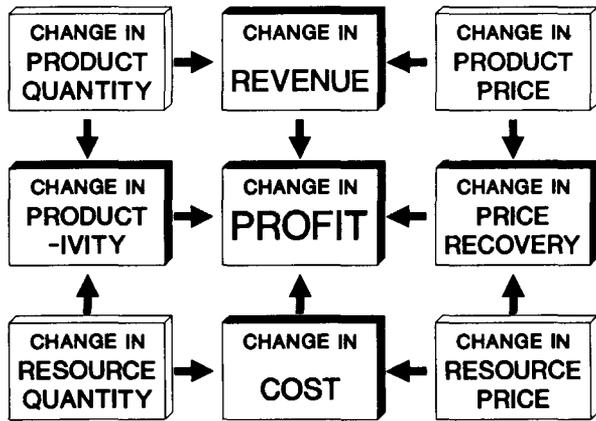


Fig. 2—Nine-box diagram of traditional and productivity accounting

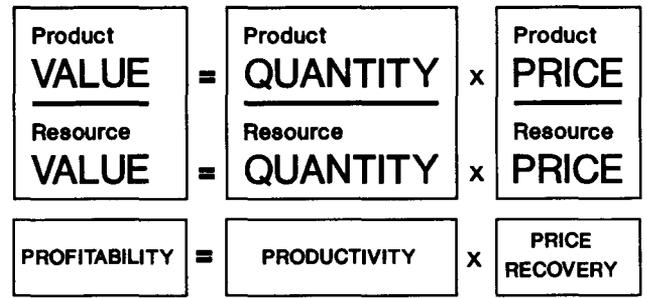


Fig. 3—Components of profitability

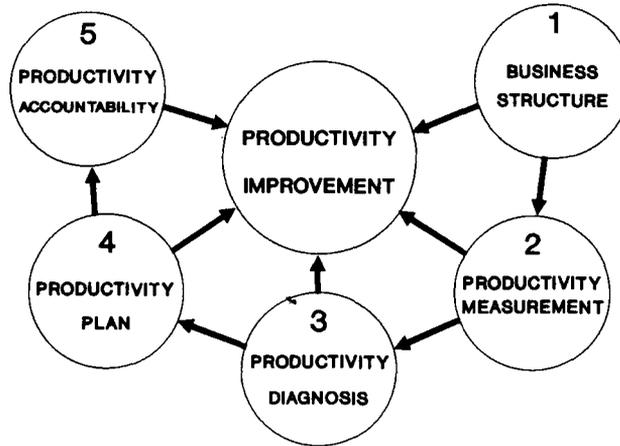


Fig. 4—Van Loggerenberg's productivity management journey

2. MOORE, B., and GIBBS, L. Management for improvement. *Review*, Gold Fields of South Africa Limited, 1988. pp. 51-56.
3. ANON. Productivity report—Dr Francois Jacobsz. *IPM Journal*, Jul. 1989. pp. 4-6.
4. VAN LOGGERENBERG, B.J. *Productivity decoding of financial signals—a primer for managers on Deterministic Productivity Accounting*. Pretoria, Productivity Measurement Associates, 1988.

Reply by J.P. Deetlefs*

On behalf of the other authors and myself, I would like to make the following general comments.

Although a general comparison between Van Loggerenberg's principle and that of Sutermeister helps to enhance one's understanding of productivity, it is not valid to conclude that Iscor concentrates on the soft components. One must remember that the size of the segments in Sutermeister's model bear no resemblance to the significance of each one. In our paper, a description is given of the organizational changes that occurred with the implementation of Performance Management. That section of the paper elaborates on the separation of operational and developmental work and, in doing so, places great emphasis on the need to work towards technical breakthroughs. On the development side, people with the appropriate background and training are divorced from day-to-day operational responsibilities and concentrate solely on the development of technology.

It is acknowledged that our paper does not describe the measurement of productivity, and I agree with the comments on the absence of measurement. However, Iscor has been using the REALST method for the analysis

of overall productivity changes since 1976/77.

The latest version of this method forms the basis of a mainframe computer system that is in an advanced stage of implementation. It is firmly believed that productivity measurement is of paramount importance, and that the REALST model is, for the present, the best available. Referring to the question about HUTOS, the Afrikaans acronym is HUTOST, which is used for the program that was developed as an extension of REALST for application on a mainframe computer.

Our Performance Management project, which is intended to change people's attitudes towards improvement, embraces all the different management actions and systems (i.e. systems for measuring and controlling) to ensure a focus on the common goal of striving for excellence. In this regard, an individual's performance is measured from foreman level upwards. The three or four most critical criteria, as decided between the individual and his superior, are either plotted on a trend graph or included in an objective matrix. The inclusion of performance objectives on these graphs means that deviations are clearly shown so that remedial action can be taken.

* Iscor Limited, P.O. Box 450, 0001 Pretoria.