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Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.) typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c/o Department of Agricultural Economics and Marketing, Pretoria, and should reach him at least one month prior to date of publication.

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COMBINING POLICY INSTRUMENTS IN AGRICULTURAL MARKETING

by

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INTRODUCTION

Both the marketing objectives and organisation structures found in South African agriculture and the marketing policy instruments applied at the enterprise level can to a large extent be identified with the basic principles of a management approach to the marketing question¹. Workable objectives, efficient organisation structures and the application of individual policy instruments however, are, not enough to ensure an effective marketing management programme. Because the optimal combination of the marketing policy instruments may be regarded as the real, central problem in the marketing management task,² a successful combination or co-ordination of the policy instruments may be regarded as the final test for effective marketing management and the formulation of a management concept in agricultural marketing.

The purpose of this article is to consider the combination question as it affects the marketing unit of agriculture. Mentioned particularly are the management units that operate at the enterprise or producer level. Dependent upon the degree of control, these may be control boards, co-operatives or units that correspond to the producer undertakings³. By contrast the combination question is usually approached in marketing literature from the point of view of the industrial undertaking. Consequently, attention must

first be restricted to a theoretical definition of what is meant by an optimum combination of instruments. Thereafter, consideration may be given to the complicating circumstances of agriculture, followed by the adaptation of a graphic approach in order to accommodate the complicating factors. In concluding, the procedure offered as an example for practice is considered and an example taken from South African agriculture.

The optimum combination

In marketing literature it is a popular practice to distinguish the policy instruments available to the marketing management unit as a product policy, distribution policy, price policy and promotion policy. After Radel,⁴ an optimum combination of these instruments may be defined basically as the combination resulting in the greatest effect on sales at the lowest cost. Two factors, however, must immediately be taken into consideration:

- (i) Some marketing inputs have a capacity for synergy or mutual strengthening. The consequent cumulative effect which occurs in combination can cause the end result to differ from the simple sum total of the individual results of the instruments.
- (ii) The choice of marketing instruments is also influenced by a characteristic of substitutability. A product that is of higher quality than that of a competitor can serve as a substitute for a promotion budget which falls short of that of the competitor.

1. Compare three previous articles in *Agrekon*: "The possibility of a marketing management approach in South African agriculture", *Agrekon*, October 1974; "Agricultural marketing management under the South African control board system", *Agrekon*, April 1975; and "Marketing policy instruments within agricultural enterprises", *Agrekon*, July 1975.

2. See Swart, N.J., *Marketing science: methodology and an economic framework of analysis*. Unpublished thesis, University of Illinois, 1976, and Cundiff, E.W. and Still, R.R. *Basic marketing*, Englewood Cliffs, N.J., Prentice Hall, 2nd edition, 1971, p. 563.

3. At the national level the National Marketing Council is also concerned with co-ordination. Consideration of the co-ordinating function of a national body from a management point of view, however, justifies a separate discussion and therefore falls outside the scope of this article.

4. Radel, F.E., in Radel, F.E., and Reynders, H.J.J. *Inleiding tot die bedryfseconomie*, Pretoria, 1971, pp. 714-716.

Because the cost-effect relationship of the policy instruments must be considered both on an individual and a combined basis, the optimum combination may be redefined as *that combination of which the sales effect of the last cost-unit is the same for all the combined policy instruments and also produces the maximum favourable result*. An improvement in the net profit is not possible at the optimum combination either by a change in one of the instruments or by a new combination.

Complicating circumstances in agriculture

In addition to the complicating effect of the characteristics of synergy and substitution, which all marketing instruments have, the optimisation problem is further complicated in the case of marketing management in South African agriculture. Seven complicating circumstances are particularly apparent.

- (i) Because of the control structure which has been expanded under the Marketing Act and special acts, marketing management takes place to a considerable extent on a *delegated basis*. As a result of the recognition, as far as possible, of the principle of free enterprise, control boards, for example, often leave the physical handling and distribution policy and parts of other policy instruments to co-operative undertakings, Government Departments and other bodies. On the other hand, it is usually possible to distinguish a central responsible management unit for each controlled enterprise. In addition, all the costs and activities involved in the provision of goods and services to the consumer are important to the responsible management unit, regardless of who they fall under. It may therefore be supposed that where delegation occurs a central management unit should still be responsible for the search for and planning of an efficient combination.
- (ii) Unlike the case in industry, there are management units in agriculture that are characterised by different representation of interests. Divergent objectives and points of departure as regards the most suitable combination may occur in a control board, for example. As against this, producer representatives are usually either in the majority or, in a few cases, equal in number to the other representatives. It therefore follows that the interests and objectives of agricultural producers can in most cases be taken as the main point of departure, with the interests and objectives of the other parties as limitations and requirements which may not be ignored.
- (iii) The Government's supporting measures have resulted in the competition being less fierce in the case of many agricultural products than it is in the case of industrial products. The motivation to optimisation may consequently be weaker in some cases. On the other hand, history has shown that most branches of the agricultural industry

have at some stage reached a state of over-supply, which produces greater challenges in marketing. It may also be argued that competing products are not the only form of competitive challenge. The development of aggressive marketing efforts in the non-agricultural sectors has helped to create a situation in which these sectors compete fiercely in almost every field with agricultural producers *for the consumer's buying power*.

- (iv) It may be argued that the agricultural sector has a social obligation to provide food and industrial raw materials for the national economy. Economic support for the agricultural sector is often based on this argument. It is consequently unthinkable that the production of useful agricultural products will ever be stopped. The optimum combination will therefore have to be sought mainly above a certain minimum quantity of the product.
- (v) Because of the need for soil conservation, an unlimited production of most agricultural products is equally undesirable. In the long term, therefore, it may be expected that the optimum combination will be sought mainly below a certain maximum production.
- (vi) Fluctuating climatic and other natural conditions have a limiting effect on the planning of product quantities.
- (vii) In the controlled branches of the industry the marketing management units are subject to a price and/or board's cost ceiling which by law may not be freely exceeded.

As a result of the complicating factors, a management unit in agriculture will have to take account of the particular circumstances in making decisions on an instrument combination. An approach which takes account in a similar way of the complicating factors of the industrial undertaking is that of Verdoorn⁵. An adaptation of Verdoorn's graphic presentation can therefore throw more light on the combination problem in agriculture.

Graphic presentation

It is logical to expect that management, after taking into consideration the ruling marketing possibilities and limitations, will try to choose the policy instruments for a planning period in such a way that objectives will be realised as satisfactorily as possible. The determination of the most profitable combination, making allowance for the limitations, is represented in Diagram A.

The presentation rests on the supposition that management will aim at the highest possible ruling value of future profits. The expected income and cost (production and marketing costs) for various sales quantities in the planning period are shown on the two

5. Verdoorn, P.J. "Marketing from the producer's point of view," in Enis, B.M. and Cox, K.K., *Marketing classics*, Boston, Allyn and Bacon, 1971, pp. 48-71.

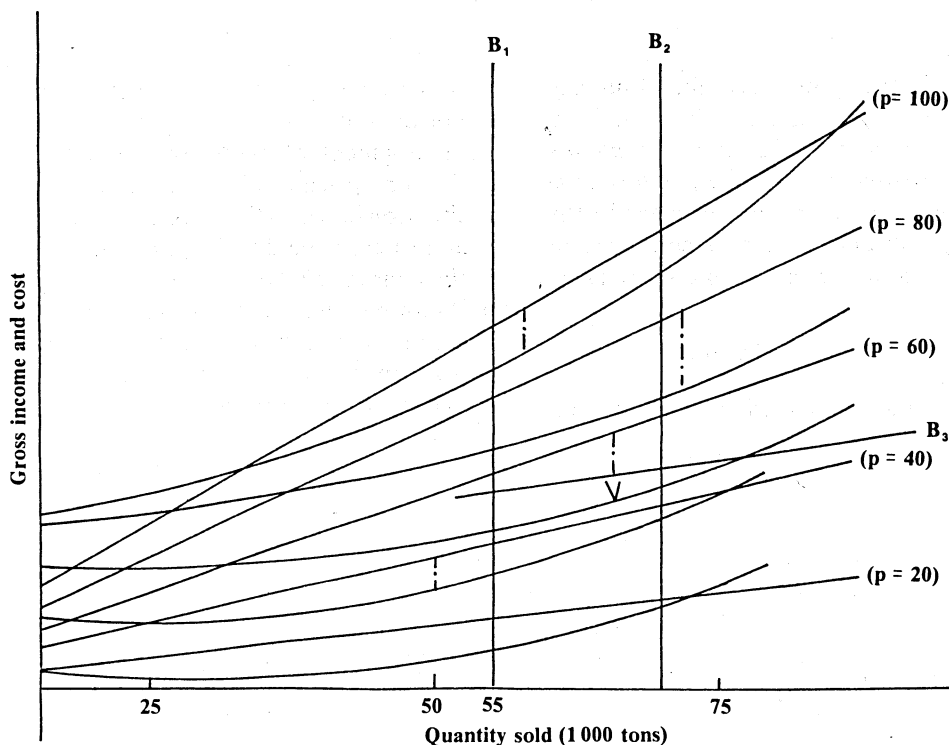


DIAGRAM A

DETERMINATION OF MOST SATISFACTORY COMBINATION OF INSTRUMENTS

axes of the graph. It is also assumed that for one of the instruments, the price policy, a minimum cost curve can be created at different prices for the same product from the cost of various considered product, distribution and promotion combinations (plus production)⁶. The most profitable combination for each price is shown where the vertical distance between the income line for a specific price and the accompanying cost curve is the greatest.

Because the complicating circumstances of agriculture occur in the form of limitations, they can be shown on the graph in the form of limits. Because of the problem that the minimum product quantities that will be marketed in any period in a particular enterprise or by a particular management unit will be a datum and will usually be indicated by crop estimates, line B_1 is drawn vertically on the X axis. Where keeping stocks is possible and there are competitive products, the importance of maintaining a certain share of the market also influences the position of the line. So B_1 represents one limit in the combination problem. In the specific example a combination for less than 55 000 tons cannot be considered in the planning period.

A maximum quantity limit, influenced in the long term by the soil potential and in the shorter term by factors such as natural conditions, market potential and financial means, is indicated by the vertical line B_2 .

B_3 represents a cost ceiling above which cost combinations cannot be chosen. It may be expected that the height of the ceiling may be affected particularly by one or both of two factors:

- (i) The general motivation to and social pressure for low costs in agriculture. Most expenses incurred by control boards, for example, are subject to the approval of the Minister.
- (ii) Each cost combination on the graph is linked with a specific price.

Control boards which have the power under their control schemes to determine market prices beforehand can do this only with ministerial approval. The cost combination for any price above the price that the Minister is prepared to allow therefore cannot be selected. Where fixed prices are not authorised, it is still logical to expect that all marketing management units in agriculture will or should at least consider expected market prices, income and total-cost for the planning period. Decisions on floor prices and other marketing arrangements are, in fact, dependent on these considerations. Under highly competitive product conditions, too high prices may result in a smaller share of the market or, particularly in the long term, buyer reaction and substitution.

In Diagram A cost combinations higher than those for a price of R60 cannot be considered. The problem is limited to the shaded portion of the graph. Within these limits the most profitable combination of instruments will be sought. Point V represents such a combination on the graph.

6. Verdoorn uses an "oasis-and-desert chart" to illustrate the derivation of the cost curve. The lowest discrete cost estimates so obtained are then combined to form the minimum cost curve.

Procedure in practice

The defining of the combination problem as an optimisation problem and its graphic presentation taking into account objectives and limitations, however enlightening, are faulty because of an important common shortcoming. Both formulations are more static than the practical marketing reality⁷. In the face of a large number of variables, particularly in the marketing environment, and the immeasurability of many of the variables, management must in practice rely to a considerable extent for success on a systematic management and planning procedure.

Basically, five logical steps which can facilitate the co-ordination of the marketing instruments may be distinguished:⁸

- (i) Marketing objectives, target markets and targets must be clearly defined. Market segmentation is a useful technique for researching and analysing the market. The aim is to find a suitable combination of instruments for each target market.
- (ii) A general marketing budget is drawn up.
- (iii) The instruments that can be used most are identified and considered.
- (iv) The alternatives within all the various instruments are selected, taking into consideration the other instruments.
- (v) From the marketing plan that has taken shape in the previous steps a detailed time plan is drawn up.

The above-mentioned five planning steps also imply the importance of periodical checking and feedback and for planning for change. The steps also fit in with what Alderson calls the fundamental phases of marketing planning, namely, the market position audit, strategy development, programme designing and the acceptance and installation of the plan⁹.

Procedure of a control board

The management and planning procedure followed by the South African Wool Board may be quoted as an example from South African practice. The example of the Wool Board is chosen on the grounds of the purposeful steps taken in the wool industry towards greater management orientation. The planning carried out by the Wool Board in the first year after

amalgamation with the Wool Commission in 1972 was very closely related to the management procedure followed.

General management procedure

The management procedure is discussed in terms of the schematic presentation in Diagram B. A key role was allocated from the first to the last step in the management process to a management group, normally consisting of the managing director, the general manager and directors of the four main departments in the Wool Board organisation and the various divisional heads. In addition, specialised groups dealt with certain allocated tasks. A systems committee was responsible throughout for the planning of computer documentation and activities. A wool handling group, consisting of board members and staff, attended to wool handling and other physical aspects of wool marketing.

The management process begins with the identification of any problems which require attention. The problems may arise from previous actions or from new possibilities.

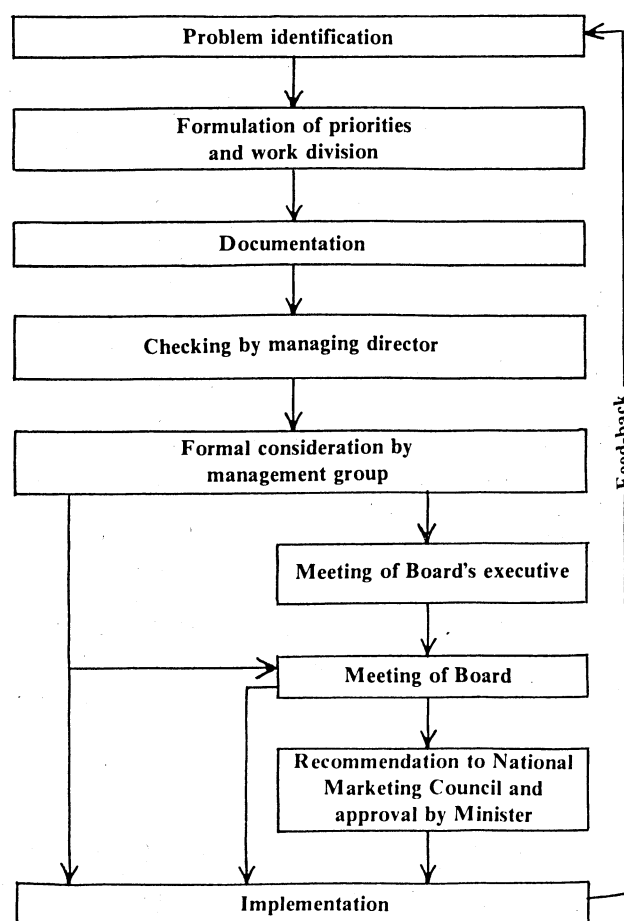


DIAGRAM B

GENERAL MANAGEMENT PROCEDURE OF THE SOUTH AFRICAN WOOL BOARD

7. For a reference to models in which the life cycle of the product is taken into account, consult De Coning, C., Wijnholds, H.J.A. de B. and Swart, N.J. *Marketing Management: A South African Approach*. Johannesburg, McGraw-Hill, 1974, p. 249. The production cycle concept, however, has limited value for the optimal planning of a combination for an agricultural product.
8. After Rädcl, F.E., *op cit.*, pp. 716-719.
9. Alderson, W. "Theory and practice of marketing planning", in Britt, S.H. and Boyd, H.W., Eds, *Marketing Management and administrative action*, New York, McGraw Hill, revised edition, 1968, pp. 245-255.

The next step is the formulation of priorities and the division of the work according to subject among the members of the group. Then follows the preparation of the necessary documents, usually to be checked by the managing director before the management group devotes formal consideration to the particulars. Members of the management group are encouraged to give reasons for and thoroughly discuss alternatives and suggestions.

Important financial and other matters which usually require preparation at a higher level before submission to the Board are next submitted to a meeting of the executive, consisting of six board members. The management group attends the meeting of the executive. Proposals of a more routine nature may be taken direct from the management group to the Board or implemented, depending on the subject.

Decisions taken by the Board are ready to be implemented unless it is necessary to obtain the recommendation of the National Marketing Council and the approval of the Minister in terms of the Marketing Act. Quantifying and a written statement of reasons are important requirements for submission to the National Marketing Council. On the grounds of the foregoing steps in the management procedure most proposals when accepted by the Wool Board are already quantified and accompanied by written reasons.

The implementation of decisions is accompanied by checking and feed-back for follow-up.

The Wool Board's marketing plan

On the grounds of the scope of the adjustments to greater management orientation and the long period usually required for a complete reorganisation, it is to be expected that progress in the direction of a comprehensive marketing plan will be very slow during the first year after the reconstitution of the

Wool Board. Considerable planning on a section basis was, however, possible in respect of all four of the marketing instruments. The marketing plan, as a result of the planning of the sales promotion programme, was for various reasons the most striking result of planning. In the first instance, it was the refined result of planning which had already begun before reorganisation and was modelled on the International Wool Secretariat. In the second place, the promotion instrument lends itself particularly well to rounded-off planning on an annual basis within the limits of the domestic market. As against this, various exceptional and largely uncontrollable circumstances of the first year after reconstitution prevented clarification of the product, distribution and price policy.

The marketing plan as drawn up in 1972/73 for 1973/74 consists of two main parts, namely, first, an all-embracing key plan and, secondly, the section plans for men's wear, ladies' wear and household textiles. Because the plan is mainly a combination of the section plans, the nature of the content of the various key and section plans is basically similar.

In Diagram C a comparison is drawn between the Wool Board's marketing plan and the four phases of marketing planning as distinguished by Alderson. The first three main divisions of the Wool Board's marketing plan give an indication of the basic content of the completed formal plan. The introduction and identification of problems and possibilities usually means an analysis of factors such as the progress of the previous programme, the share of the market, trends in the general economy and the textile industry, buyer behaviour and developments in the manufacturing and commercial sectors. Section one corresponds to what Alderson describes as the *market position audit*.

The second section of the Wool Board's marketing plan covers first the objectives, which are formulated in respect of the different product groups

Sections of Wool Board marketing plan	Phases according to Alderson
1. (a) Introduction (b) Problems and possibilities	1. Market position audit
2. (a) Objectives and targets (b) Strategy outline	2. Strategy development
3. (a) Allocation of resources (b) Summaries	3. Programme design
4. Implementation and checking	4. Acceptance and installation

DIAGRAM C

THE WOOL BOARD'S MARKETING PLAN COMPARED WITH ALBERSON'S PLANNING PHASES

first in general and in accordance with the long-term objectives, then defined in more specific terms and eventually set as definite targets. From the objectives stems a formulation of the envisaged strategies. The second section corresponds to Alderson's phase of *strategy development*.

The third section of the Wool Board's marketing plan covers detailed information on the allocation of resources, particularly staff and funds, in respect of the various product types, market segments, functions carried out, media utilisation and promotion methods. Reliable summaries give greater clarity to the detailed explanations. This section corresponds to Alderson's *programme development phase*.

The fourth section, as distinguished in the schematic presentation, does not constitute a formal part of the content of the marketing plan, but is part of the logical management actions which regularly follow after the drawing up of the plan. A system of monthly reporting-back on progress was instituted by the Wool Board with a view to regular checking. The fourth section also corresponds to Alderson's phase of *acceptance and installation*.

It is concluded that the marketing plan, as drawn up and applied by the Wool Board in respect of the promotion instrument, may be regarded as a marketing management resource which is particularly

refined and adapted to the South African circumstances. The plan offers an excellent basis for the eventual design and implementation of a more comprehensive marketing plan to outline and combine in the long and short term the promotion, product, distribution and price instruments.

Conclusion

A final test of the suitability of a management approach to the marketing of agricultural products was the basic reason behind the consideration of the combination of policy instruments in agricultural marketing. In spite of various complicating circumstances in agriculture it seems possible to accommodate these circumstances in a theoretical formulation of a satisfactory combination. The management and planning procedure followed by a South African control board also agrees to a considerable extent with the procedure proposed for the management of an ordinary undertaking.

The ideal of an optimum combination of instruments in agricultural marketing management, however difficult it may be to achieve, may be regarded as the greatest challenge to further research, consideration and solution in practice and at the academic level.