Traditional and Hierarchical Marketing Budget Reports

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COSTING FOR MARKETING DECISIONS

How does the marketing manager know what products maximise profits, what are the loss makers and what products use up other valuable resources? He or she needs cost information, and the person to provide it would be the management accountant.

The management accountant is required to provide marketing management with decision-oriented information and, at the same time, work along with marketing to develop a plan to maximise the profit of the company. Such a plan is known as a marketing budget. However, in order to service a market-oriented industry, the management accountant cannot merely transfer the tools developed in production accounting to marketing as a total system. He or she must, instead, start with the fundamentals, abandoning the many stereotyped approaches of accountants to planning and control.

For example, an understanding of the product portfolio matrix is required in order to maximise the profit potential by focusing on those products that have strong market share and market growth opportunities, and this in turn creates the need to understand cost behaviour at different market segment levels. An understanding of these two fundamentals is required in order to facilitate the budget preparation and reporting process, where management accountants have to work effectively with marketing management. Once this understanding is achieved, financial budgets can be developed, especially incorporating the cause-effect relationship between promotion and sales and the resultant impact on a marketing segment's contribution to overall corporate profitability. In this appendix, both a traditional cost allocation approach to marketing budgets, and a hierarchical cost allocation approach with links to performance evaluation will be highlighted.

Conventional cost accounting techniques start with the cost of the product. However, a particular product could be sold in one or more marketing segments (such as a sales territory), or one sales territory could market more than one product. Thus, some costs at the segmental (territorial) level will need to be allocated (apportioned) in two ways:

- Between different products
- Over different product life cycles

Traditionally, accountants have used volume–based measures of allocation, such sales revenue or some other selling-related volume measure. In many complex organizations, however, Activity Based Costing (ABC) is now an accepted cost allocation technique replacing the more traditional 'volume-based' allocation methods. The basic difference between the 'volume-based' and the activity-based' cost allocation methods is that in the former the assumption is that *product volume* causes costs to be incurred, whilst the latter method argues that it is *activities* that give rise to costs.

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Thus, under an ABC allocation approach, there could not only be volume-based allocation bases (called volume cost-drivers), but also **non-volume-based cost drivers** such as those caused by the structural complexity that is evident in modern industrial settings. Examples of such complexity would be the range of products, customers, parts, processes, product introductions and deletions, set-ups, suppliers etc, that cause costs to be incurred independent of sales volume.

This case study example is based on the pioneering work of Professor Janek Ratnatunga in the marketing-accounting field (see a compilation of his work in the area in the list of references).

The Marketing Budget Model - Case Study Data

The Marketing Management of the BS Company wishes to test the likely financial results of the following promotional budget:

- Advertising $50,000
- Point of Sale Promotions $25,000
- Salesman's salary and travel $30,000
- Sales Commissions 5% of Sales

If such a promotional campaign is carried out, marketing research has projected the following volume data:

- ***Product Sales Volume:***
  Product A = 20,000 units
  Product B = 5,000 units
  Product C = 7,000 units

- ***Marketing Segment's Administrative and Transport Activities and Drivers:***
  Shipping: 50,000 gram-kilometres shipped in total for all 3 products
  Paperwork: 2,000 invoices processed in total for all 3 products

The selling prices, variable costs and contributions relating to the products are given in the table below:

Product Unit Related Contributions			
Product	**A**	**B**	**C**
Selling Price per unit	$50.00	60.00	30.00
Standard variable	(25.00)	(35.00)	(20.00)
Production cost per unit	25.00	25.00	10.00
less: Non-Production Variable Cost: Stock Handling cost per unit	(2.50)	(1.30)	(0.60)
Contribution per unit	22.50	23.70	9.40

The other **variable costs per cost driver** pertaining to the level of expected activity in the marketing segment is given below:

- Transportation: $1.00 per gram-kilometre
- Order Processing Paperwork Costs: $1.50 per invoice

In the traditional approach to generating marketing budgets, these marketing segment overheads are allocated to products using a volume-based (e.g. sales revenue) allocation base.

The **specific fixed expenses** of the marketing segment for the period are:

- Short run, controllable expenses $20,000
- Long run, non-controllable expenses $10,000

THE 'TRADITIONAL' MARKETING BUDGET REPORT

Using the above information, a 'traditional' management accountant would prepare the budget report to marketing managers in a format that both facilitates easy comprehension and provides decision-oriented information. The report illustrated in Figure 1 provides information as to the contributions generated at the product and marketing segmental levels.

FIGURE 1 The Marketing Budget Report for a Sales Segment

	Products			
	A	**B**	**C**	**TOTAL**
Revenue	$1,000,000	$300,000	$210,000	$1,510,000
Less: Variable Production Costs	($500,000)	($175,000)	($140,000)	($815,000)
PRODUCTION CONTRIBUTION	$500,000	$125,000	$70,000	$695,000
Less: Variable Non-Manuf. Costs	($50,000)	($6,500)	($4,200)	($60,700)
PRODUCT CONTRIBUTION	**$450,000**	**$118,500**	**$65,800**	**$634,300**
Marketing Segments (e.g. Territory)				
Less: Segment Variable Costs:				
1. Transportation Cost	($33,000)	($10,000)	($7,000)	($50,000)
2. Invoice Costs	($2,000)	($500)	($500)	($3,000)
3. Sales Commissions	($50,000)	($15,000)	($10,500)	($75,500)
NET CONTRIBUTION	**$365,000**	**$93,000**	**$47,800**	**$505,800**
Less: Short-run Controllable Fixed				
1. District Office	($13,250)	($4,000)	($2,750)	($20,000)
2. Advertising	($33,000)	($9,500)	($7,500)	($50,000)
3. Promotion	($16,500)	($5,000)	($3,500)	($25,000)
4. Salesman's Salary and Travel	($20,000)	($6,000)	($4,000)	($30,000)
SEGMENT CONTROLLABLE MARGIN	**$282,250**	**$68,500**	**$30,050**	**$380,800**
Less: Long-run non-controllable	($6,500)	($2,000)	($1,500)	($10,000)
NET SEGMENT PROFIT MARGIN	**$275,750**	**$66,500**	**$28,550**	**$370,800**

THE 'HIERARCHICAL' MARKETING BUDGET REPORT

There are two features of this budgeting approach that must be highlighted: it incorporates both ABC allocation techniques, and also performance reporting in terms of the return obtained for the investment made in the segment.

First, the principles of both hierarchical ABC cost driver allocation is used, in which some costs are allocated only to the product level, and others only to the marketing segmental level. Thus, this approach avoids the subjective 'volume' allocations of the traditional approach, in which products may be erroneously perceived to be profitable of unprofitable merely because overheads have been misallocated to them. In the hierarchical approach, costs are allocated at different segmental levels and only if there are activities performed at that level. Thus, marketing managers can make product-market decisions such as product deletions and introductions, without having to re-allocate arbitrarily assigned overhead to products as they vary their portfolio mix of products (i.e. make product introductions and / or deletions).

Second, it is based on the *Residual Income* approach to performance appraisal and thus it means that a cost-of-capital charge is levied against the segment as compensation for the assets invested in the segment. The cost of investment has a variable and fixed component. For example, debtors and stocks tend to vary with sales and production volume, while the investment in plant and equipment remains fixed. Therefore, in this approach, those cost of capital charges that are variable (i.e. debtors and stockholding costs) are included as variable costs, whilst the charge for the use of the fixed assets is included as a fixed cost. The principles of the *Residual Income* approach are used in the popular performance evaluation model known as *Economic Value Added* (EVA®). Thus, this model computes a segmental EVA® at each hierarchical level of the organisation.

Sometimes the relationships of these variable costs may be very complex. For example, stockholding costs include a cost of capital charge that is typically product-related and therefore is deducted from a unit of product to arrive at the contribution per unit. Other variable cost-of-capital charges may be customer-related rather than product-related. For example, the cost of carrying debtors is usually a function of the customer's payment pattern, i.e. most debtors pay not on a 'product-by-product' basis but instead as an end of month customer balance.

In order to undertake a *Residual Income* (or *Economic Value Added* -EVA®) performance appraisal, let us assume that the following investments have been made in the marketing segment:

- **Fixed asset investment** in segment amounts to $1,000,000 at a cost of capital charge of 15% annual rate.
- **Variable asset investment** in segment is as follows:
  - Debtors Costs equal 2 months average payment period at a cost of capital charge of 15% annual rate [or (0.15/12) × 2 = .025 of revenue].
  - Stock holding cost, (based on variable production cost per unit) is calculated on an average 1.6 months holding period at a cost of capital of 15% annual rate [or (0.15/12) x 1.6 = .02 of variable production costs].

  Using the information given previously, and also taking the cost of capital charges on the investments into account, the selling prices, variable costs and contributions relating to the products under a *Residual Income* (or *Economic Value Added* -EVA®) approach are given in the table below:

Product Unit Related Contributions			
Product	**A**	**B**	**C**
Selling Price per unit.	$50.00	60.00	30.00
Standard variable	(25.00)	(35.00)	(20.00)
Production cost per unit	25.00	25.00	10.00
less: Non-Production Variable Cost per unit.			
1. Stock Holding Cost	(0.50)	(0.70)	(0.40)
2. Stock Handling cost	(2.50)	(1.30)	(0.60)
Contribution per unit	22.00	23.00	9.00

FIGURE 2 The Marketing Budget Report for a Sales Segment

Product	**A**	**B**	**C**	*TOTAL*
Revenue	1,000,000	300,000	210,000	1,510,000
Less: Variable Production Costs	(500,000)	(175,000)	(140,000)	(815,000)
PRODUCTION CONTRIBUTION	**500,000**	**125,000**	**70,000**	**695,000**
Less: Variable Non-Manufacturing Costs	(60,000)	(10,000)	(7,000)	(77,000)
PRODUCT CONTRIBUTION	**440,000**	**115,000**	**63,000**	**618,000**
Marketing Segments (e.g. Territory)				
Less: Segment Variable Costs:				
1. Transportation Cost			50,000	
2. Debtor's Costs			37,750	
3. Invoice Costs			3,000	
4. Sales Commissions			75,500	(166,250)
NET CONTRIBUTION				**451,750**
Less: Short-run Controllable Fixed Costs:				
1. District Office			20,000	
2. Advertising			50,000	
3. Promotion			25,000	
4. Salesman's Salary and Travel			30,000	(125,000)
SEGMENT CONTROLLABLE MARGIN				**326,750**
Less: Long-run non-controllable costs:				(10,000)
NET SEGMENT PROFIT MARGIN				**316,750**
Less: Charge for fixed corporate investment (1m × 15%)				(150,000)
RESIDUAL SEGMENT MARGIN				**166,750**

The report illustrated in Figure 2 provides information as to the contributions generated at the product and marketing segmental levels under a *Residual Income* (or *Economic Value Added* - EVA®) approach.

From Figure 2, it can be seen that in order to arrive at the **product contribution** one deducts the variable non-production costs from the **production contribution**. Examples of such costs are stock holding and stock handling costs, which although product-variable, are not related to production. There are variable costs that do not vary solely with units of product, and these are deducted from the product contribution in order to obtain the **net contribution**. Examples of this category are transportation costs which may vary with the distance a particular weight is carried; debtors' costs and sales commissions which may vary with total revenue; and order processing costs which may depend on the number of invoices processed.

From the net contribution, the short-run, controllable fixed costs that are attachable to the segment under consideration are deducted to obtain the **segment controllable margin**. Similarly, the attachable long-run, non-controllable fixed costs and the attachable charge for fixed corporate investment are deducted to arrive at the **net segment margin** and **residual segment margin** respectively.

The difference between the 'Traditional' (Figure 1) and 'Hierarchical' (Figure 2) bottom lines (i.e. $370,800 vs. $166,750, a difference of $204,050) is purely due to the cost of capital charge to the segment for specific asset investments made in it as follows:

	Total Investment	**Total Cost**
Inventory Holding:	$ 108,667	$ 16, 300
Debtors Money Blocked:	$ 251,667	$ 37,750
Fixed Asset Investments:	$ 1,000,000	$150,000
Total:	$ 1,360,334	$204,050

In the Traditional approach, if one wanted to evaluate the investment-return performance of the segment, a *Return on Investment (ROI)* calculation would have been required, as follows:

ROI = ($370,800/$1,360,334) = 27.2%

However, management accountants find it easier to run 'what if' scenarios' using the above Hierarchical Marketing Budget approach, as it clearly demonstrates the cost behaviour patterns (i.e. fixed and variable costs) and the cause-effect cost driver links at the various hierarchical levels of an organisation. Thus, variable operational (e.g. transportation) and variable cost of capital (e.g. debtors) expenses are placed on an equal footing, as are the fixed operational (e.g. segment manager's salary) and fixed cost of capital (e.g. fixed assets) expenses. Thus, if the segment is lumbered with non-performing (marginal or non-productive) assets, the Residual Segment Margin (see Figure 2) will become negative, whilst the ROI will reduce (as the denominator investment figure will increase), but still remain positive (as the numerator profit figure will not change). This would have been the case if (say) the Fixed Asset investment was $3 million instead of $1 million. This is the advantage of the *Residual Income* (or *Economic Value Added* -EVA®) approach over the *ROI* performance evaluation approach, in that alarm bells will ring due to the negative Residual Segment Margin number, that indicates that the segment is a value-destroyer segment.

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