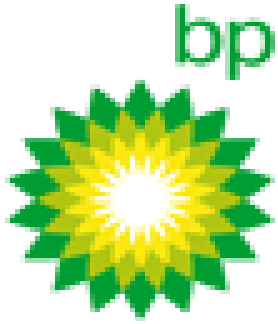

Executive summary

This report will present an explanation of four main costing systems; it will describe the advantages and the disadvantages of marginal costing, absorption costing, process costing and service costing. It will also reveal whether these costing systems are suited to the company BP.

Marginal costing is suitable for BP to use internal ly to calculate the number of units needed to be sold to break even. Marginal costing is appropriate for BP because it has many variable costs such as the products sold in stations and the transportation of the petrol; these are all dependent on the level of activity.

Absorption costing

Comparison of marginal and absorption

Process costing / Joint and by-product costing

Service costing

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Marginal costing

In product/service costing, a marginal costing system focuses on the behavioural, rather than the functional, characteristics of costs. It concentrates on separating costs into variable elements (where the cost per unit remains the same with total cost varying in proportion to activity) and fixed elements (where the total cost remains the same in each period regardless of the level of activity). Whilst this is not easily achieved with accuracy, and is an oversimplification of reality, marginal costing information can be very useful for short-term planning, control and decision-making, especially in a multi-product business.

In a marginal costing system, sales less variable costs (regardless of function) measures the contribution that individual products/services make towards the total fixed costs incurred by the business. The fixed costs (regardless of function) are treated as period costs and, as such, are simply deducted from contribution in the period incurred to arrive at net profit.

The advantages of using a marginal costing method for pricing are that it is good for short-term decision-making, it avoids having to make an arbitrary allocation of fixed costs and overheads and it focuses the business on what is required to achieve break-even.
However, there are some potential disadvantages of using this method there is a risk that the price set will not recover total fixed costs in the long term. Ultimately businesses must price their products so that they reflect the total costs of the business. Also marginal costing may cause difficulties in raising prices if the contribution per unit is set too low.

Within BP they produce and trade a variety of products ranging from their main source of income; oil to minor products such as chocolate bars, cigarettes and mobile phone credit. It is possible for BP to use marginal costing as they have many overheads both fixed and variable; they have fixed costs such as rates, insurance and salaries which will be charged for the period of time in which they are incurred. Their variable costs; stock of sundries (chocolate bars, sandwiches and newspapers etc), petroleum, transport will all be accounted for within the marginal costing system. All the costs will be individually as products are taken away from the selling price for each unit to calculate the contribution for each product. Then the fixed costs will be divided by the contribution calculating the number of units needed to be sold to break even for each variety and brand of product.

Absorption Costing

Absorption costing is the apportion of all costs incurred by a business to each of its products and services. In comparison to marginal costing, it allows the inclusion of fixed costs in the eventual decision making process. This can also establish whether, in the long-run, each product/service makes a profit. An absorption costing system traditionally classifies cost of functions. Sales less production (of sales) measures the gross profit (manufacturing profit) earned. Gross profit less costs incurred in other business functions establishes the net profit (operating profit) earned.

Using absorption costing system, the profit made in the manufacturing business for a period will be influenced by the level of production as well as the level of sales. This is because of the absorption of fixed manufacturing overheads into the value of work –in-progress and finished goods stocks.

The debate between absorption costing and marginal costing is whether the fixed manufacturing costs are costs of the product made or costs for the period in which they were incurred. Absorption costing will not ensure that fixed costs will be recovered if actual sales volume is less than the estimate used to calculate the fixed overhead rate. Fixed overheads will be deferred and in closing inventory valuation, will be recorded as an expense only in the period in which the goods are sold. Therefore, losses are unlikely to be reported in periods when stocks are being built up. This makes absorption costing appear more favourable because it is able to provide a more logical profit calculation. However, the production of the good is not possible if fixed manufacturing costs are incurred. SSAP 9 follows the requirement for external reporting for absorption costing.

However, the argument for variable costing is that, it is able to provide information about costs for making decisions. As the relevant cost is required to see if it is worth producing a component internally or to produce this externally. A downfall with absorption costing is that, when sales volumes increase it can show profits to be down. This is why marginal costing is sometimes preferred.

Process Costing

The process costing system is mainly used in industries where many relatively homogeneous products are mass-produced in a similar manner; for example chemical processing, pharmaceutical production or other manufacturing industries. Here repeated individual processes form the basis of the costing system.

In a process costing system, the unit cost is obtained by assigning total costs to many identical units, as it is assumed that each unit will receive the same amount of direct material costs, direct labour costs and indirect manufacturing cost. Therefore, an average unit cost is calculated by dividing total costs by total number of units. Whilst other costing systems differ, process costing assesses how any losses, whether normal or abnormal, reflect on product cost. It also takes into account the value of incomplete units in the form of work in progress with the concept of conversion costs.

There are four key steps to process costing:

1) Determination of output and any normal/abnormal losses
2) Calculation of cost per unit, losses and work in progress
3) Calculation of total costs of output and losses
4) Writing up of accounts

It is clear that BP would benefit from using a process costing system, simply because of the nature of their business. Their main trade comes through oil refinement and selling, which is obviously a process repeated countless times. BP experiences many abnormal losses and gains through refinement, as some of the lighter liquids are in a near gaseous state when produced and volume levels vary; this can be accounted for using process costing.

In all probability BP would have work in progress to carry forward to the next month, and these incomplete units of production can be valuated using the concept of equivalent units.

When BP refines their oil, approximately 45% of the oil input is turned into petrol. Innumerable other products are made from chemicals attained through refinement such as tires, cassette film, cosmetics and wax products. BP sells these chemicals to companies as by-products. By products are secondary products made by a firm that would usually be scrap but do have a useful function and can therefore be sold. By-product costing is essential to BP as it is the only costing technique to accommodate for these types of products.