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# Answers

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1 Report

To: The board of Monza  
From: A. Accountant  
Date: September 2016  
Subject: Performance measurement and management issues at Monza

This report addresses the problems of using the balanced scorecard within Monza. The current and proposed performance measures are evaluated and the main current measure is discussed in detail. Quality costs and the new quality programme at the manufacturing division are analysed. Finally, the lean philosophy is applied to the new information system for the drug development division.

(i) Problems with using the balanced scorecard

The balanced scorecard (BSC) provides no aggregate or single summary measure of performance unlike the value-based approach. Also, there is no simple, direct link between shareholder value, the main objective of Monza, and the balanced scorecard measures.

The measures in the scorecard can conflict, for example, cost controls (financial perspective) can obstruct the investment needed in order to speed up manufacturing processes (internal business perspective). Overall, the measures should seek to align with the fundamental need to create shareholder value.

It can be difficult to select measures. In particular, there is the danger of losing sight of key information in a plethora of indicators. This may be an issue for Monza as it has only had three indicators in the past and this will now increase significantly (a potential of 12, if there is one for each level of management in the four perspectives).

There must be management commitment to the change to the scorecard. In particular, there must not be a return to a focus on the financial measures which have been used in the past at Monza. Management should acquire the expertise for understanding non-financial measures through training.

There are potentially significant costs in collecting the additional information which will be needed for the new performance measures. Many of the measures will be non-financial and so new information systems will be required to collect and record the data.

(ii) Choice of current and proposed performance measures

**Current measures**

The current measures are all historic, financial ones and so the BSC approach will bring a longer term view by using non-financial measures which consider those factors which might drive future growth, for example, those in the learning and growth perspective. The current measures do not directly link to shareholder value which appears to be the overall aim of the company. A measure such as economic value added would do this more effectively.

The three measures do give a broad view of financial performance. ROCE is a widely-used measure which it should be possible to benchmark against competitors. As far as the divisions are concerned, there is a measure of success in selling through revenue growth, though this may not be due to only the sales division but also the drugs brought to market by the development division. Average cost to develop a new drug is a financial measure of the development division's performance but this does not measure its aim of innovation in development. Indeed, this measure may conflict with that aim as cost control of development may hinder innovative thinking. It would appear more appropriate to have a cost control measure associated with manufacturing as its goal is to be more efficient. The performance of the manufacturing division is only measured indirectly through its effect on the financial performance of the company as a whole.

**Consultants' proposed measures**

The suggested measures do not seem to deviate much from the existing measures, though there may be an advantage in this as the new system would be using existing information systems and known measures in that case. However, this advantage is secondary to the need to find measures which will drive useful performance in the four perspectives.

The proposed measures from the consultants' interim report mostly fit within the standard four perspectives of the BSC, although revenue growth is more appropriate as a measure from the financial perspective. Customer perspective measures should focus on the strategies which will achieve success in the eyes of the customers rather than just measuring the results of those strategies. Examples of this would be measuring the efficacy of the drugs which are developed by Monza or the reputation of Monza's medicines among the medical community.

Taking the others in turn, ROCE does not seem to be directly linked to shareholder value as, for example, economic value added or net present value would be. ROCE considers the performance over the whole capital base while the shareholders will be more directly concerned with returns on their equity investment. As a profit-based measure, ROCE may also be failing to target cash-generation which is ultimately driving dividend payments and value creation for shareholders.

As already indicated, cost control in business processes is important but other measures of success such as time to market for the development of new products and quality initiatives should also be considered.

The fourth perspective is particularly relevant to a high-technology firm such as Monza. There will be considerable competitive advantage in having a highly skilled workforce, however, the measure proposed is imprecise as it values all training days, whether for knowledge workers or unskilled labourers, as equally valuable. Measures of the number of innovations within each division may be appropriate as these will be qualitatively different (new compounds developed, manufacturing quality improvements and sales techniques/initiatives developed).

Overall, the initial proposed set of measures does appear limited and does not address the overall aim of Monza or the problem of the narrowness of the existing set of measures.

**(iii) Variation in calculating return on capital**

	ROCE	ROE
Using		
Operating profit	18%	
Operating profit before restructuring	23%	
Profit after tax		97%

Return on capital employed is normally calculated by dividing operating profit by capital employed (debt and equity). The calculations above illustrate the possibilities using the different return (profit) and capital figures available.

The ROCE figure should not use gross profit as this ignores the operating costs not directly attached to sales and at Monza these will include significant overheads from the drug development and manufacturing divisions which are relevant to overall performance. The return figure should match with the capital used to generate that return. As ROCE is calculated based on the return on total capital, it should not include financing costs and so profit before and after tax are not consistent with this view. The one area that could be argued is whether to include the one-off costs of restructuring in performance. It would probably be best to disclose both figures to the company's stakeholders and to identify how any competitor would perform such a calculation for benchmarking.

**A suitable approach for Monza**

Return on equity (ROE) may be a more suitable measure given Monza's focus on shareholder (not debt provider) performance. In this case, the relevant return figure is the profit after tax as this is the return available to shareholders after the debt providers have been paid. The figure here (97%) is very large. This is due partly to the fact that the capital figures used in these calculations are from the financial statements and are not market values. (Market values of equity and debt would give a more accurate measure of performance both for ROCE and ROE.) Another reason why the ROE is large compared to ROCE is that Monza is highly geared (88%). ROE, therefore, demonstrates the benefit of the chosen capital structure of Monza.

Overall, therefore, ROE is a better measure than ROCE as it fits with the prioritisation of shareholders as opposed to all capital providers.

**(iv) Quality costs and total quality management at manufacturing division**

Quality costs are usually broken into four categories:

- Prevention costs which relate to avoiding producing defective items in the first place;
- Appraisal costs which relate to ensuring that the products produced meet an acceptable standard;
- Costs of internal failure which relate to products which fail appraisal and how these are handled; and
- Costs of external failure which relate to products which fail the standard but are still shipped to customers.

At Monza, for the most recent period, the following quality costs have been identified:

- Prevention costs – \$8m (training)
- Appraisal costs – \$12m (product testing)
- Costs of internal failure – \$13m (batches rejected)
- Costs of external failure – \$27m = \$5m (fines) + \$22m (discounts for late delivery)

Total raw material costs might hide relevant quality costs if the company is buying higher quality material to prevent problems of quality, however, this cannot be quantified in this scenario.

It can be seen that there were \$40m of failure costs in the period but only \$8m was spent on prevention. A 10% improvement in the failures could generate \$4m in cost savings and the budget for improvements to production which prevent such failures could be significantly expanded in light of this. The analysis of quality costs should help to emphasise the importance of prevention by showing its financial value and this is vital to motivate a total quality management (TQM) approach.

**Impact of TQM on manufacturing division**

Total quality management focuses on the customer perspective and the need for each part of the organisation to avoid defects in the chain of production. Prevention is the key to improvement and so management should focus on avoiding defects through training and improved process design rather than appraisal. All employees must accept personal responsibility for their work and act to remove defects from production. Quality certification programmes are often instituted in order to encourage the focus on 'zero defects'. Quality circles may be formed as small, autonomous groups aimed at devising solutions to quality problems.

(v) Making the new information system 'lean' in drug development division

Lean systems aim to get the right thing to the right place at the right time, first time. They aim to reduce waste while being flexible. The need for flexibility will be important for the drug development division as it is constantly working in a changing environment.

The information in the system should be organised so that it can be retrieved with minimum difficulty. The information will also have to be accurate so that time is not wasted in making errors. The information should be presented clearly and, in particular, should not be excessive given the needs of the users. The information should be able to be exchanged easily. This will be important in a collaborative environment such as a research group in the development division.

[Tutor note: The 5Ss (Structurise, Systemise, Sanitise, Standardise, Self-discipline) could also be used to structure an acceptable answer.]

2 (a) Recalculate the budget for Luxury division to the end of the current year

C\$'000	Q1 (Actual)	Q2	Q3	Q4	Total
Revenue (W1)	10,400	12,240	11,388	7,247	41,275
Cost of sales (W2)	(6,240)	(7,020)	(6,370)	(4,654)	(24,284)
Gross profit	4,160	5,220	5,018	2,593	16,991
Distribution costs (W3)	(624)	(734)	(682)	(434)	(2,474)
Administration costs (W4)	(2,296)	(2,243)	(2,186)	(2,132)	(8,857)
Operating profit	1,240	2,243	2,150	27	5,660

Recalculating Luxury division's budget for the year to reflect current conditions gives a more realistic target for the division managers. For the coming year, the effect of this is very significant and represents a much more challenging target for managers as it increases the expected total annual operating profit by 42% (5,660/4,000) over the original budget.

Workings (C\$'000)

W1 – Revenue

	Q1 (Actual)	Q2	Q3	Q4	Total
Original budget	10,400·0	12,000·0	11,000·0	7,000·0	40,400·0
2% sales volume		240·0	220·0	140·0	600·0
1·5% sales price			168·3	107·1	275·4
Total	10,400·0	12,240·0	11,388·3	7,247·1	41,275·4

W2 – Cost of sales

	Q1 (Actual)	Q2	Q3	Q4	Total
Original budget	6,240·0	7,120·0	6,460·0	4,720·0	24,540·0
2% sales volume		142·4	129·2	94·4	366·0
6·67% Exchange rate*		(242·2)	(219·7)	(160·6)	(622·5)
Total	6,240·0	7,020·2	6,369·5	4,653·8	24,283·5

\*6·67% = 1 – (1·4/1·5), applied to 50% of COS.

W3 – Distribution costs

	Q1 (Actual)	Q2	Q3	Q4	Total
Original budget	624·0	720·0	660·0	420·0	2,424·0
2% sales volume		14·4	13·2	8·4	36·0
1·31% Fuel tax increase*			8·8	5·6	14·4
Total	624·0	734·4	682·0	434·0	2,474·40

\* 1·31% = 70% x (3/160)

W4 – Administration costs

	Q1 (Actual)	Q2	Q3	Q4	Total
Original budget	2,296·0	2,300·0	2,300·0	2,300·0	9,196·0
2·5% compound savings		(57·5)	(113·6)	(168·3)	(339·4)
Total	2,296·0	2,242·5	2,186·4	2,131·7	8,856·6

Workings for savings in administration costs

Q2 2,300·0 x 2·5% = 57·5

Q3 57·5 + (2,242·5 x 2·5%) = 113·6

Q4 113·6 + (2,186·40 x 2·5%) = 168·3

**(b) Incremental budgeting**

Framiltone currently uses this type of budgeting, the starting point of which is usually the previous year's actual performance or budget. This is then updated for any known changes in costs, or for inflation. The budget would normally remain unchanged for the remainder of the year.

Incremental budgeting is suitable for use in organisations which are stable and not undergoing significant changes. This is the case for Dairy division, which operates in a saturated market and has little opportunity to grow.

Production volumes in Dairy division have only increased by 0.5% over a full five years, so it is a very stable business. Dairy division has stability of both revenues and costs. It has long-term fixed cost and volume supply agreements with its supermarket customers. It also has similar fixed contracts with its suppliers of milk, the most significant raw material ingredient used in its products.

Though the third party distribution company is able to pass on some increases in fuel costs to Dairy division, these are capped at only 0.5% per year. This is significantly less than the tax increases which will increase Luxury division's fuel costs after the start of Q3. It appears that Dairy division has relatively little exposure to rising fuel prices.

Furthermore, these increases are agreed prior to the setting of the current year budget, so there is no need to update these costs on an ongoing basis throughout the year.

As the dairy foods market is saturated and stable, there is little opportunity for the division to incur discretionary costs such as research and development of new products.

Incremental budgeting is only suitable for business where costs are already well controlled. This is because a big disadvantage of incremental budgeting is that it perpetuates inefficient activities by often simply building inflation into previous year results or budgets. It appears that Dairy division, having been in existence for a relatively long time, does have good cost control as it has modern production plant and is recognised as having the most efficient production processes in the industry.

Incremental budgeting may, however, build in budget slack. Managers may spend up to their budgeted amounts in one year, so that their budget is not cut the next, which may affect their appraisal and reward in the future. It is unclear whether this is occurring at Dairy division, though for many years (while Dairy division was the only division at Framiltone), the budgets set following consultation with divisional managers have just been achieved. This may be consistent with the stability of the division, but could also indicate that budgets were not set at a challenging enough level, even though Dairy division had the best performance of the two divisions last year.

It is not therefore advisable that rolling budgets are introduced in Dairy division, as the current incremental process appears satisfactory. This is especially so since divisional managers have little experience of setting their own budgets, and the time and cost of using rolling budgets would exceed the value of them to the division.

**Rolling budgets**

Rolling budgets are continually updated to reflect current conditions and are usually extended by budgeting for an additional period after the current period, for example, a quarter, has elapsed. That way, the budget always reflects the most up to date trading conditions and best estimates of future costs and revenues, usually for the next four quarters.

Rolling budgets are suitable for businesses which change rapidly or where it is difficult to estimate future revenues and costs.

Luxury division was only set up two years ago, and is therefore a relatively new business. It also operates in quite a different sector of the industry to that in which Dairy division operates and where Framiltone has most experience. There is likely to be considerable uncertainty as to future costs and revenues as Framiltone has little direct experience on which to base its forecasts.

Whereas Dairy division operates in a saturated and stable market, Luxury division uses rare ingredients which are subject to variations in availability and cost, for example, as a result of poor harvests. There is no indication that Luxury division has fixed price and volume contracts with its customers or suppliers and is therefore likely to suffer from instability of supply as well as demand resulting from changes in consumer tastes.

The frequent changes in the product range are also likely to make forecasting for a year ahead difficult. The fact that a large proportion of ingredients are imported from Veeland, makes costs susceptible to changes in the C\$:\$ exchange rates which can quickly make an annual budget out of date, though managers may use methods such as forward contracts to reduce these movements. If managers are appraised on a budget which is out of date or unrealistic, they are likely to give up trying to achieve the budget, which will negatively affect the performance of Framiltone.

Rolling budgets will provide a more accurate basis on which to appraise managers at Luxury division as they incorporate the best known estimates of future costs and revenues. It can be seen by the recalculation following Q1 results that Luxury division's revised budgeted operating profit for the year has increased significantly by 42% (5,660/4,000), most of which is due to exchange rate changes. Where costs and revenues are likely to change during the period, rolling budgets give a much more realistic basis on which to appraise divisional performance and appraise and reward divisional managers. Budgets are likely to be achievable, which will motivate managers to try and achieve them.

Though the regular updating of the budget required in rolling budgeting is costly, time consuming and possibly a distraction for divisional managers, it does seem that rolling budgets are more suitable for Luxury division than the current incremental approach, particularly as being realistic and achievable, they will increase managers' motivation to achieve the budget and so improve the performance of the business.

**3 (a) (i) Activity based costing**

Activity based costing (ABC) allocates costs to products based on the activities which actually drive the cost to better allocate the costs.

At Alflonnsso, the group accounting policy is to allocate waste treatment overhead costs on the basis of revenue, which is arbitrary. From the analyst's calculations, R&D costs do not seem to be allocated to specific product costs at all. This may be appropriate elsewhere in the group, where different products may consume similar levels of overheads, but the three new products being evaluated consume quite different amounts of R&D and waste treatment overheads.

It is therefore inappropriate to charge these costs to the products on the basis of revenue. Charging these costs on the basis of the activities which drive them, which are research hours and volume of waste by-products for R&D costs and waste treatment costs respectively, will give a more accurate costing. This will provide a better basis on which to evaluate the new products and set appropriate prices.

**(ii) Calculation of waste treatment cost**

	ALF7	Red	Green
Quantity of waste by-product (m litres)	8.0	34.00	0.75
[m litres produced/no. of m litres to make 1 litre of waste]	[100/12.5]	[85/2.5]	[75/100]
Allocated total \$300m according to quantity of waste as proportion of total 55m litres:			
Annual waste treatment allocated (\$m):	43.6 [8 x 300/55]	185.5 [34 x 300/55]	4.1 [0.75 x 300/55]

**R&D cost**

	ALF7	Red	Green
Allocated total \$60m according to required hours of research as proportion of total 30,400 hours:			
R&D treatment allocated (\$m):	1.6 [800 x 60/30,400]	16.8 [8,500 x 60/30,400]	7.9 [4,000 x 60/30,400]

**(b) Average unit cost of each product over total lifecycle**

\$m	ALF7	Red	Green
Revenue [given]	800.0	1,105.0	825.0
Direct material, labour and energy [given]	(524.0)	(724.0)	(565.0)
Factory overheads [given]	(80.0)	(122.0)	(74.0)
Waste treatment [from part (a) (ii)]	(43.6)	(185.5)	(4.1)
Total annual net profit	152.4	73.5	181.9
Lifecycle duration (years)	3	15	8
Total net profit over lifecycle (before other lifecycle costs)	457.2	1,102.5	1,455.2
Scientific study [\$4m x 20 years]	–	(80.0)	–
Decommissioning cost	–	(45.0)	–
R&D cost [from part (a) (ii)]	(1.6)	(16.8)	(7.9)
Total net profit over lifecycle	455.6	960.7	1,447.3
No. of litres produced over the lifecycle (m)	300	1,275	600
Average profit per litre over lifecycle	\$1.52	\$0.75	\$2.41

From the analyst's calculations in Appendix 1, Red has the highest profitability per litre of the three products at \$2.26, but this only covers a single period. As such, it does not consider costs which occur before production commences or after it ceases. When the costs of the products over their entire life cycles are taken into account, Red has the lowest average unit profit, the highest being Green at \$2.41. This change has occurred as the R&D costs, the cost of the study which will span 20 years and the decommissioning costs have now been recognised. Knowing the costs over the entire lifecycle of a product will help the agrochemicals division to better evaluate its investment decisions, determine appropriate prices and generate an acceptable margin.

**(c) EMA**

Environmental management accounting (EMA) involves the production of non-financial and financial information to support internal environmental management processes. This could involve measuring the physical movements of inputs to a production process, such as materials and energy, and outputs such as waste.

The agrochemicals division could also record financial data on costs and savings related to the environment. It appears that, in common with most other businesses, these costs are not currently identified by Alflonnsso's accounting system and they lie hidden within overheads.

Managers have no incentive to reduce these environment related costs as they are not even aware of them, or the costs of poor environmental practices. EMA allows an organisation to identify environment related costs and take steps to control them. Such costs are often categorised into conventional costs, contingent costs and reputation costs.

#### **Conventional costs**

These costs include the cost of energy and raw materials, and may remain hidden within overheads. The energy costs of the three new products in the analyst's income statement are simply combined with raw material and direct labour costs. This does not, for example, highlight the relatively high energy cost to produce Green. Being unaware of this cost, managers are unable to take steps to redesign the specification or production process for the product in order to reduce the cost.

#### **Contingent costs**

These are costs which are incurred in the future, for example, the decommissioning costs of plant used to manufacture Red. This cost is significant at an estimated \$45m, but occurs 15 years in the future and so the estimation is unlikely to be accurate.

Identification of these contingent costs will at least allow the agrochemicals division to more accurately estimate the cost of each of the three new products. Also, by identifying these costs at an early stage, this may allow managers to redesign the specification or production process for the product in order to reduce the cost and help prevent managers from focusing only on short-term performance.

#### **Reputation costs**

Reputation costs are incurred where an organisation acts in a way which may cause harm to the environment, and include sales lost as a result of loss of reputation. These costs are hard to quantify. For example, the accumulation of the existing product, ALF6, in the soil is said to have a potential effect on crop yields which may lead to future claims from users of the product or to loss of sales due to its potential harm to the environment.

Similarly, Alflonno's failure, by producing Green, to improve crop yields in countries where food production is already scarce is likely to arouse disapproval by public and governments in the 25 countries where it operates. This again may result in lost sales or refusal by governments to grant licences for Alflonno to operate.

Making managers aware of these reputation costs should focus their attention on the need to manage the risks of them occurring.

#### **4 (a) CSF of high quality design**

The directors of LAA have identified the importance of producing high quality creative designs as a CSF to ensure successful advertising campaigns, and therefore client satisfaction. It is likely that having this as a CSF will help LAA achieve its objective to 'delight clients with the quality of work', as creative design is an important part of the service which LAA provides.

It is not clear, however, whether this CSF will help achieve the second of LAA's objectives to provide excellent value for money. It may be that other agencies produce a similar quality of work, but charge a lower price. Alternatively, the quality of LAA's design work may exceed that required by the client, who will be unlikely, therefore, to perceive it as good value for money.

Identifying this CSF will not directly help achieve the stated objective of providing clients with access to local and specialist knowledge. External suppliers may have more specialist knowledge than LAA can realistically replicate in its own design department.

The relationship between the quality of the creative design and the clients' perception of its value for money will determine whether the fourth objective, to have returning clients, will be achieved or not. All other things being equal, high quality design work will probably make clients more likely to return. Other aspects of LAA's service though, such as designing effective advertising campaigns and negotiating competitive rates for media buying, may be at least as important to the client.

#### **KPI to buy 90% internally**

Setting a KPI should lead managers to try and achieve this target, as they are appraised (and presumably rewarded) according to their performance against the target.

Having this target will only help achieve the objective of delighting clients if the quality of the design done internally exceeds that done by third party external designers. Though LAA has set up the 'centre for design excellence', this does not automatically mean the quality of work is any better than external agencies.

Encouraging managers to buy creative services internally does not necessarily help achieve the objective of giving value for money for clients. Managers at both B and C have indicated that the prices charged by the in-house design department are significantly higher than other agencies in the market. The use of the internal design department may not be best value for the client.

Encouraging the use of internal services may not help achieve LAA's third objective to offer specialist and local knowledge to clients. The design department is based entirely in Geeland and may not meet the needs of clients in other countries. The manager of B has already commented that the department did not understand the requirements of consumers in Veeland. This is also inconsistent with the objectives to delight clients and to have them return to LAA.

Similarly, managers in A have also commented that the internal department did not have specialist knowledge to meet the needs of a new client. Again, encouraging managers to use the internal department seems contrary to the objectives of providing clients with specialist knowledge in order to delight them and to have them as return customers.

**(b) Transfer pricing policy**

**Autonomy of the subsidiaries**

The purposes of a transfer pricing policy are to encourage subsidiaries' autonomy, facilitate performance evaluation and to promote overall goal congruence with the aim of LAA to maximise shareholder wealth.

As the three subsidiaries are profit centres, they will tend to make decisions which maximise their own profit. This may be at the expense of the other subsidiaries. By charging a higher transfer price to B and C for design services, A will increase its own revenue and also the costs for B and C. This may also be at the expense of LAA as a whole, for example, as C's client was unhappy by the high charges levied by A.

A transfer pricing policy helps to prevent subsidiaries from acting in an entirely self-interested way where this may not be in the best interests of LAA as a whole. Though a transfer pricing policy should promote autonomy of the subsidiaries, LAA's head office should have the power to impose a transfer price to maintain goal congruence across the organisation. This is not currently happening, and the high transfer prices charged for design services are causing dissatisfaction.

Both B and C have commented that they have spent large amounts of time trying to negotiate transfer prices with A. This is a waste of managers' time. The ability of head office to impose a transfer price, or the existence of a clear transfer pricing policy, would allow managers more time to deal with other key aspects of the business, such as ensuring client satisfaction.

**Performance measurement in the three subsidiaries**

A transfer pricing policy will enable the performance of the individual subsidiaries to be fairly measured. If the policy is unfair, for example, the gross margin at subsidiary C was reduced by the seemingly excessive transfer prices charged by A, managers' motivation will be reduced, especially if this reduces the subsidiaries' managers' rewards.

**Setting clear, transparent and understandable transfer prices**

Managers at B have complained that the basis for setting the transfer price from A is unclear. A transfer pricing policy should ensure that the basis for setting the prices is transparent, straightforward and well understood by managers so that they do not see prices as being set unfairly and thus become demotivated.

The basis for the prices set between subsidiaries in different countries should also be clear about how exchange rate movements are reflected in the transfer price, so that managers' performance is not appraised on factors which are outside their control.

Also, the transfer pricing policy for transfers between different countries should ensure that the prices are likely to be acceptable to the local tax authorities. The tax authorities in Veeland, where B is located, are already investigating the transfer prices charged by A. This is presumably because the authorities suspect that the transfer price may be set at an artificially high level in order to reduce tax paid on profits earned in Veeland. Having a clear transfer pricing policy may help to demonstrate that B is operating within relevant taxation laws and is acting ethically in setting a fair transfer price. As the internal design department has no external customers, then it may be preferable to operate it as a separate cost centre and make all transfers at marginal cost.

**Tutorial note:** *An approach which addressed the question based on the aims of a transfer pricing system, i.e. encourage autonomy, facilitate performance evaluation and promote goal congruence, would have been acceptable.*

**(c) Advantages of setting transfer prices on the basis of market value**

Transfer prices on the basis of market value reflect the prices of purchasing creative design services on the open market. Both buying and selling subsidiaries will know what the market price is and be able to compare this to the price they are paying or charging internally.

Where subsidiaries have autonomy to negotiate their own transfer prices, in order to maximise the performance of the individual subsidiaries, the transfer price agreed is likely to reflect market price. The buyer will be unwilling to pay more than the price it can pay on the open market. The seller will be unwilling to charge less to sell internally than can be obtained on the open market. This encourages efficiency in A, which has to compete with external suppliers of creative design services.

Where a market value transfer price is used, it will usually be beneficial for buyer and seller, as well as for LAA as a whole, to transfer internally. This is because selling and administration costs overall for both parties are reduced, and the buyer should get better customer service and reliability of supply by buying internally.

The transfer price charged by A currently includes an allowance for marketing costs and bad debts. These are unlikely to be incurred where internal transfers are made. The costs savings may be shared by both parties and the transfer price reduced to a level below the market value. This lower transfer price is known as the adjusted market price.

If the transfer price charged by A is calculated on a different basis from market value, which appears to be the case as A's prices are higher than the market rates, the subsidiaries will waste time arguing over the transfer price. This current approach may improve the subsidiaries' own performance, but this is not in the best interests of LAA overall.

**Disadvantages of using market price**

The use of external market price will only be the optimal transfer price when a perfectly competitive external market exists. For example, though creative services can be purchased on the open market, those services may not be identical with those provided internally. Subsidiary A had to use a third party design agency for its new client as it did not have the industry knowledge to do the work itself. In this case, there may not be an equivalent service available internally to those available externally, and vice versa. There may therefore be no realistic option to buy on the open market in this situation and the use of an external market price as a transfer price would be inappropriate.

The market price may be temporary, changing according to capacity of the service providers, changes in economic circumstances, or in the case of LAA, short-term variations in the exchange rate. In which case, the transfer price would need to be frequently changed if it were to continue to reflect market conditions. This would be time consuming and probably confusing to the subsidiaries' managers.

Where allowance is made in the transfer price for the reduced costs, for example, of marketing and bad debts, it may be difficult to agree an adjusted market price which is acceptable to both A and the subsidiary purchasing design services from A.

- 1**
- (i)** Problems with using the balanced scorecard  
Up to 2 marks per point if made relevant to Monza  
Maximum 8 marks
  - (ii)** Choice of current and proposed performance measures  
Current measures – up to 6 marks  
Proposed measures – up to 9 marks  
Maximum 12 marks
  - (iii)** Variation in calculating return on capital  
Calculations – 3 marks for profit calculation of appropriate ROCE figures; 1 for doing ROE calculation; 1 for gearing  
Maximum 5 marks  
Discussion of ROCE – up to 5 marks  
Discussion of ROE – up to 3 marks  
Justified recommendation – 1 mark  
Maximum 11 marks
  - (iv)** Quality costs and TQM at manufacturing division  
Discussion of categories of quality cost – up to 2 marks  
Calculation/identification of quality costs – up to 3 marks  
Discussion of results – up to 3 marks  
Effect of TQM – up to 5 marks  
Maximum 10 marks
  - (v)** New information system  
Aims of lean approach – up to 2 marks  
Ways of achieving a lean system – up to 5 marks  
Maximum 5 marks
- Professional 4 marks
- Total 50 marks**

- 2**
- (a)** Calculations:
    - Use of Q1 actual as starting point – 1 mark
    - Sales volume increase on revenue – 1 mark
    - Sales price change from Q3 – 1 mark
    - Sales volume increase on COS – 1 mark
    - Exchange rate percentage – 1 mark
    - Application of exchange rate change – 1 mark
    - Sales volume increase on distribution costs – 1 mark
    - Fuel tax percentage – 1 mark
    - Application of fuel tax change – 1 mark
    - Administration savings – 1 mark
    - Conclusion – up to 2 marksMaximum 12 marks
  - (b)** Use of incremental budgeting in the divisions – up to 8 marks  
Use of rolling budgeting in the divisions – up to 8 marks  
Maximum 13 marks
- Total 25 marks**

- 3 (a) (i)** Generic explanation of purpose of ABC – 1 mark  
Application to scenario – 1 mark per point  
Maximum 5 marks
- (ii)** Waste treatment costs – 2 marks  
R&D costs – 1 mark  
Maximum 3 marks
- (b)** Revenue, direct costs, overheads (given) – 1 mark  
Waste treatment costs – 1 mark  
Total net profit over LC (before other LC costs) – 1 mark  
Scientific study – 1 mark  
Decommissioning cost – 1 mark  
R&D cost – 1 mark  
Total litres – 1 mark  
Average profit per litre over LC – 1 mark  
Comments – up to 3 marks  
Maximum 9 marks
- (c)** Description of EMA – up to 2 marks  
Each cost category – up to 3 marks  
Maximum 8 marks

**Total 25 marks**

- 4 (a)** Discussion of CSF with objectives – up to 6 marks  
Discussion of KPI with objectives – up to 6 marks  
Maximum 8 marks
- (b)** Each relevant point – 1 mark  
Maximum 9 marks
- (c)** Benefits of a market value approach – up to 6 marks  
Problems with a market value approach – up to 6 marks  
Maximum 8 marks

**Total 25 marks**