

Professional Level – Options Module

Advanced Performance Management

Thursday 6 June 2013



Time allowed

Reading and planning: 15 minutes

Writing: 3 hours

This paper is divided into two sections:

Section A – This ONE question is compulsory and MUST be attempted

Section B – TWO questions ONLY to be attempted

Present Value and Annuity Tables are on pages 10 and 11.

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

This question paper must not be removed from the examination hall.

The Association of Chartered Certified Accountants

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Paper

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Section A – This ONE question is compulsory and MUST be attempted

1 Kolmog Hotels is a large, listed chain of branded hotels in Ostland. Its stated mission is: ‘to become the No. 1 hotel chain in Ostland, building the strength of the Kolmog brand by consistently delighting customers, investing in employees, delivering innovative products/services and continuously improving performance’. The subsidiary aims of the company are to maximise shareholder value, create a culture of pride in the brand and strengthen the brand loyalty of all stakeholders.

The hotels in the Kolmog chain include a diverse range of buildings and locations serving different customer groups (large conference venues, city centre business hotels and country house hotels for holidays). For reporting purposes, the company has divided itself into the four geographical regions of Ostland as can be seen in a recent example of the strategic performance report for the company used by the board for their annual review (see appendix 1). At the operational level, each hotel manager is given an individual budget for their hotel, prepared in the finance department, and is judged by performance against budgeted profit.

Kolmog is planning a strategic change to its current business model. The board has decided to sell many of the hotels in the chain and then rent them back. This is consistent with many other hotel companies who are focusing on the management of their hotels rather than managing a large, property portfolio of hotels.

In order to assist this strategic change, the chief executive officer (CEO) is considering introducing the balanced scorecard (BSC) across Kolmog. He has tasked you, as a management accountant in the head office, with reviewing the preliminary work done on the development of the scorecard in order to ensure that it is consistent with the goal of meeting the strategic objectives of the company by tying operational and strategic performance measurement into a coherent framework.

The CEO is worried that the BSC might be perceived within the organisation as a management accounting technique that has been derived from the manufacturing sector. In order to assess its use at Kolmog, he has asked you to explain the characteristics that differentiate service businesses from manufacturing ones.

Senior executives at the head office of Kolmog have drawn up a preliminary list of perspectives and metrics as an outline of the balanced scorecard in table 1:

Table 1

Key strategic perspective	Metric
Strategic financial performance	– financial performance benchmarked to Kolmog’s main competitors (share price and return on capital employed)
Customer satisfaction	– customer satisfaction survey scores
Hotel performance against budget	– variance analysis for each hotel
Employee satisfaction	– staff turnover

The history of rewards at Kolmog has not been good, with only 1% of staff receiving their maximum possible bonus in previous years and 75% of staff receiving no bonus. This has led to many complaints that targets set for the reward system are too challenging.

Under a new performance reward system, employee targets are to be derived from the above BSC strategic measures depending on the employee’s area of responsibility. The new system is for hotel managers to be given challenging targets based on their hotel’s performance against budgeted profit, industry wide staff turnover and the company’s average customer satisfaction scores. The hotel managers will then get up to 30% of their basic salary as a bonus, based on their regional manager’s assessment of their performance against these targets. The CEO wants you to use Fitzgerald and Moon’s building block model to assess the new system. He is happy with the dimensions of performance but wants your comments on the standards and rewards being applied here.

Appendix 1

Strategic performance report for review

Kolmog Hotels Year to 31 Mar 2013

	East Region \$m	West Region \$m	North Region \$m	South Region \$m	Total \$m	Total 2012 \$m	As % of revenue for 2013
Revenue	235	244	313	193	985	926	
Cost of sales	28	30	37	21	116	110	11.78%
Gross profit	207	214	276	172	869	816	
Staff costs	61	65	78	54	258	245	26.19%
Other operating costs							
hotels	68	70	97	54	289	270	29.34%
head office					158	150	16.04%
Operating profit	78	79	101	64	164	151	16.60%
Financing costs					78	73	7.92%
Profit before tax					86	78	8.73%
							Growth Year on Year
Capital employed					\$1,132m	\$1,065m	6.29%
EPS					\$1.36	\$1.27	7.09%
Share price					\$12.34	\$11.76	4.93%
ROCE					14.49%	14.18%	

Required:

Write a report to the CEO to:

- (i) explain the characteristics that differentiate service businesses from manufacturing ones, using Kolmog to illustrate your points; (5 marks)
- (ii) evaluate the current strategic performance report and the choice of performance metrics used (Appendix 1); (8 marks)
- (iii) evaluate the outline balanced scorecard (Table 1) at Kolmog, suggesting suitable improvements; (12 marks)
- (iv) describe the difficulties in implementing and using the balanced scorecard at Kolmog; (7 marks)
- (v) explain the purpose of setting targets which are challenging, and evaluate the standards and rewards for the hotel managers' performance reward system as requested by the CEO. (14 marks)

Professional marks will be awarded for the format, style and structure of the discussion of your answer.

(4 marks)

(50 marks)

Section B – TWO questions ONLY to be attempted

2 Navier Aerials Co (Navier) manufactures satellite dishes for receiving satellite television signals. Navier supplies the major satellite TV companies who install standard satellite dishes for their customers. The company also manufactures and installs a small number of specialised satellite dishes to individuals or businesses with specific needs resulting from poor reception in their locations.

The chief executive officer (CEO) wants to initiate a programme of cost reduction at Navier. His plan is to use activity-based management (ABM) to allocate costs more accurately and to identify non-value adding activities. The first department to be analysed is the customer care department, as it has been believed for some time that the current method of cost allocation is giving unrealistic results for the two product types.

At present, the finance director (FD) absorbs the cost of customer care into the product cost on a per unit basis using the data in table 1. He then tries to correct the problem of unrealistic costing, by making rough estimates of the costs to be allocated to each product based on the operations director's impression of the amount of work of the department. In fact, he simply adds \$100 above the standard absorbed cost to the cost of a specialised dish to cover the assumed extra work involved at customer care.

The cost accountant has gathered information for the customer care department in table 2 from interviews with the finance and customer care staff. She has used this information to correctly calculate the total costs of each activity using activity-based costing in table 3. The CEO wants you, as a senior management accountant, to complete the work required for a comparison of the results of the current standard absorption costing to activity-based costing for the standard and specialised dishes.

Once this is done, the CEO wants you to consider the implications for management of the customer care process of the costs of each activity in that department. The CEO is especially interested in how this information may impact on the identification of non-valued added activities and quality management at Navier.

Navier Dishes (information for the year ending 31 March 2013)

Customer care (CC) department

Table 1: Existing costing data

	\$'000
Salaries	400
Computer time	165
Telephone	79
Stationery and sundries	27
Depreciation of equipment	36
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	707

Note:

1 CC cost is currently allocated to each dish based on 16,000 orders a year, where each order contains an average of 5.5 dishes.

Table 2: Activity-costing data

Activities of CC dept	Staff time	Comments
Handling enquiries and preparing quotes for potential orders	40%	relates to 35,000 enquiries/quotes per year
Receiving actual orders	10%	relates to 16,000 orders in the year
Customer credit checks	10%	done once an order is received
Supervision of orders through manufacture to delivery	15%	
Complaints handling	25%	relates to 3,200 complaints per year

Notes:

- 1 Total department cost is allocated using staff time as this drives all of the other costs in the department.
- 2 90% of both enquiries and orders are for standard dishes. The remainder are for specialised dishes.
- 3 Handling enquiries and preparing quotes for specialised dishes takes 20% of staff time allocated to this activity.

- 4 The process for receiving an order, checking customer credit and supervision of the order is the same for both a specialised dish order and a standard dish order.
- 5 50% of the complaints received are for specialised dish orders.
- 6 Each standard dish order contains an average of six dishes.
- 7 Each specialised dish order contains an average of one dish.

Table 3: Activity-based costs

	Total \$	Standard \$	Specialised \$
Handling enquiries and preparing quotes	282,800	226,240	56,560
Receiving actual orders	70,700	63,630	7,070
Customer credit checks	70,700	63,630	7,070
Supervision of order through manufacture to delivery	106,050	95,445	10,605
Complaints handling	176,750	88,375	88,375
Total	<u>707,000</u>	<u>537,320</u>	<u>169,680</u>

Required:

- (a) **Evaluate the impact of using activity-based costing, compared to the existing costing system for customer care, on the cost of both types of product.** (13 marks)
- (b) **Assess how the information on each activity can be used and improved upon at Navier in assisting cost reduction and quality management in the customer care department.**

Note: There is no need to make comments on the different product types here. (12 marks)

(25 marks)

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Question 3 begins on page 7.**

- 3 Stokeness Engineering (Stokeness) is developing hydrogen fuel cells for use in powering large motor vehicles such as buses and trucks. They will replace standard petrol/diesel engines. The fuel cells have a clear advantage over these older technologies in having lower carbon dioxide (a greenhouse gas) emissions. The governments of many developed countries are keen to see cuts in such emissions and are supportive of a variety of possible technological solutions to this issue (such as fuel cells, electrical batteries and compressed natural gas).

These alternate power technologies would be fitted by the major international vehicle manufacturers into their vehicles for sale to their customers. The vehicle manufacturers will need to form a close partnership with any engine producer in order to make their technologies compatible and this has already begun to happen, with two of the major manufacturers signing deals with other engine makers recently.

Stokeness' mission is to provide world-leading, reduced-emission, fuel-efficient power products for the motor industry in order to optimise shareholder returns. Stokeness has existed for only five years and is owned by its management and venture capitalists (VCs). The management were all engineers who had been working on the basic research associated with new fuel technologies and saw the opportunity to commercialise their expertise. Stokeness is highly regarded in the industry for its advanced, efficient fuel cell designs. As a result, the VCs were eager to invest in Stokeness and have assisted by placing experienced managers into the business to aid the original engineering team.

It takes five to ten years to develop a viable product for sale in this motor market. Thus, the VCs have stressed the need to analyse competition and competitive advantage in order to understand how to make the business profitable in the long term. A major problem that needs to be overcome with any of these new technologies is that there must be an infrastructure accessible to the end users for refuelling their vehicles (as the petrol station chains do for petrol engine vehicles at present). Governments have indicated their desire to support the development of such technologies to address environmental issues and to try to establish new, high-value industries in their jurisdiction. They may do this through tax breaks and investment to support the development of the refuelling infrastructure.

Production of Stokeness' fuel cells uses a special membrane that requires rare and expensive elements. Also, it has partnered with two other engineering firms to subcontract the production of certain components in the fuel cell. Stokeness has had to share much of its fuel cell design with these firms in order to overcome certain engineering difficulties.

There are a number of companies developing fuel cells but Stokeness is believed to have a two-year lead over them and to be only three years away from commercial launch. Also, there are a number of start-up companies developing the other technologies mentioned above, as well as large, existing diesel and petrol engine manufacturers who are constantly reducing the emissions from their existing engines.

The chief executive officer (CEO) of Stokeness wants to understand the external business environment and its effect on performance management. She has used Porter's five forces model herself in the past for strategic decision-making but here she wants it focused on performance management. In particular, she wants your analysis of the current competitive environment to result in advice about performance management and a properly justified recommendation of one performance measure for each of the five force areas. Stokeness already uses market share to measure its competitive position but the CEO is worried about the way this is calculated, in particular the definition of the market. She has asked for your comments on this as you are a performance management expert.

Required:

- (a) **Using Porter's five forces model, assess the impact of the external business environment on the performance management of Stokeness and give a justified recommendation of one new performance measure for each of the five force areas at Stokeness.** (16 marks)
- (b) **Discuss how the problems of defining the market in measuring a market share apply for Stokeness.** (4 marks)
- (c) **Assess the risk appetite of the venture capitalists and discuss how this might impact on performance measurement at Stokeness.** (5 marks)

(25 marks)

4 Landual Lamps (Landual) manufactures and delivers floor and table lamps for homes and offices in Beeland. The company sells through its website and uses commercial logistics firms to deliver their products. The markets for its products are highly competitive. The company has traditionally relied on the high quality of its designs to drive demand for its products.

The company is divided into two divisions (components and assembly), plus a head office that provides design, administrative and marketing support. The manufacturing process involves:

1. the components division making the housing components and electrical components for the lamp. This is an intricate process as it depends on the specific design of the lamp and so serves as a significant source of competitive advantage for Landual;
2. the assembly division assembling the various components into a finished lamp ready for shipment. This is a simple process.

The finance director (FD) of Landual is currently overloaded with work due to changes in financial accounting policies that are being considered at board level. As a result, she has been unable to look at certain management accounting aspects of the business and has asked you to do a review of the transfer pricing policy between the components and assembly divisions.

The current transfer pricing policy at Landual is as follows:

- (a) market prices for electrical components are used as these are generic components for which there is a competitive external market; and
- (b) prices for housing components based on total actual production costs to the components division are used as there is no external market for these components since they are specially designed for Landual's products.

Currently, the components division produces only for the assembly division in order to meet overall demand without the use of external suppliers for housing and electrical components. If the components division were to sell its electrical components externally, then additional costs of \$269,000 would arise for transport, marketing and bad debts.

The FD is considering two separate changes within Landual: one to the transfer pricing policy and a second one to the divisional structure.

First, the transfer pricing policy for housing components would change to use variable cost to the components division. The FD wants to know the impact of the change in transfer pricing policy on the existing results of the two divisions and the company. (No change is proposed to the transfer price of the electrical components.)

Second, as can be seen from the divisional performance report below, the two divisions are currently treated as profit centres. The FD is considering splitting the components division into two further separate divisions: an electrical components division and a housing components division. If the board agrees to this proposal, then the housing components division will be treated as a cost centre only, charging its total production cost to the assembly division. The electrical components and assembly divisions will remain as profit centres.

The FD needs to understand the impact of this proposed new divisional structure on divisional performance assessment and on the company as a whole. She has asked that, in order to keep the discussion on the new divisional structure simple, you use the existing transfer pricing policy to do illustrative calculations. She stated that she would reallocate head office costs to the two new components divisions in proportion to their cost of sales.

You are provided with the following financial and other information for Landual Lamps.

Actual data for Landual Lamps for the year ended 31 March 2013

		Components Division \$'000	Assembly Division \$'000	Landual Lamps \$'000
Sales	Electrical	1,557		
	Housing	8,204		
sub-total		9,761	15,794	15,794
Cost of sales				
	Electrical	804	1,557	
	Housing	6,902	8,204	
sub-total		7,706	9,761	7,706
Fixed production costs				
	Electrical	370		
	Housing	1,302		
sub-total		1,672	1,268	2,940
Allocated head office costs		461	2,046	2,507
Profit		(78)	2,719	2,641

Note:

- The components division has had problems meeting budgets recently, with an adverse variance of \$575,000 in the last year. This variance arises in relation to the cost of sales for housing component production.

Required:

- Evaluate the current system of transfer pricing at Landual, using illustrative calculations as appropriate.** (10 marks)
- Advise the finance director (FD) on the impact of changing the transfer pricing policy for housing components as suggested by the FD and comment on your results, using illustrative calculations as appropriate.** (6 marks)
- Evaluate the impact of the change in proposed divisional structure on the profit in the divisions and the company as directed by the FD.** (9 marks)

(25 marks)

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
 n = number of periods until payment

<i>Discount rate (r)</i>											
<i>Periods</i>											
(n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	1
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	2
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	3
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	4
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	5
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	6
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	7
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	8
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	9
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	10
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	11
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	12
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	13
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	14
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	15
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	1
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694	2
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579	3
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482	4
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402	5
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335	6
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279	7
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233	8
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194	9
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162	10
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135	11
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112	12
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093	13
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078	14
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
 n = number of periods

		<i>Discount rate (r)</i>									
<i>Periods</i>											
(n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	1
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	2
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	3
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	4
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	5
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	6
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	7
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	8
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	9
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	10
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	11
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	12
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	13
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	14
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	15
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	1
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528	2
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106	3
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589	4
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991	5
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326	6
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605	7
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837	8
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031	9
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192	10
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327	11
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439	12
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533	13
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611	14
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675	15

End of Question Paper