Professional Level – Options Module

Advanced Performance Management

Thursday 5 December 2013

Paper P5

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.

ACCA

The Association of Chartered Certified Accountants

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

1 Lopten Industries is one of the largest, listed consumer durables manufacturers in the world, making washing machines, tumble dryers and dishwashers. It has recently expanded into Beeland which is a developing country where incomes have risen to the point where demand is increasing for Lopten's goods among the growing middle-class population.

Lopten believes in the economies of scale of large manufacturing sites with dispersed selling branches in the markets in which it operates. Therefore, it has entered the Beeland market by setting up a local sales force and supporting them with a national marketing campaign. The company is currently selling only two products in Beeland (both are types of washing machines):

- a basic product (called Cheerful) with functions which are comparable with the existing local competitors' output and
- a premium product (called Posh) which has functions and features similar to Lopten's products in other developed countries.

Both products are manufactured and imported from its regional manufacturing hub, which is in the neighbouring country of Kayland.

The competitive environment in Beeland is changing rapidly. The washing machine market used to be dominated by two large local manufacturers who make simple, cheap and reliable machines. There are two other major international manufacturers apart from Lopten. One of these has already opened a factory in Beeland and is producing machines similar to Cheerful to compete directly with the existing local producers. The government of Beeland has supported this new entrant with grants, as it is keen to encourage inward investment by foreign companies and the resulting expertise and employment which they provide. The other international competitor is now considering entering the Beeland market with more highly specified machines similar to Lopten's Posh brand.

Lopten's stated mission is to be the 'most successful manufacturer of its type of products in the world'. The board has set the following critical success factors (CSFs) for Lopten's Beeland operations:

1. to obtain a dominant market presence
2. to maximise profits within acceptable risk
3. to maintain the brand image of Lopten for above average quality products.

The board is considering using the following key performance indicators (KPIs) for each product: total profit, average sales price per unit, contribution per unit, market share, margin of safety, return on capital employed (ROCE), total quality costs and consumer awards won.

(**Note:** Margin of safety has been defined as [actual sales units – breakeven sales units]/actual sales units.)

The board has asked you as a consultant to assess its current performance measurement systems. They want a report which calculates the various indicators suggested above and then assesses how the key performance indicators address issues in the external environment. The report should assess the balance between planning and controlling represented by the KPIs as they want to ensure that these match what they should be doing at the strategic level in Lopten. Also, it should evaluate how the KPIs fit with the CSFs which have been selected. The data given in Appendix 1 has been collated for your use.

Finally, the board is considering two new marketing strategies going forward:

Plan A is to continue operations as at present allowing for 4% growth p.a. in volumes of both Cheerful and Posh.

Plan B is to dramatically reduce the marketing spend on Cheerful and to reallocate resources to focus the marketing on Posh. This is expected to lead to an anticipated growth in volume of 15% p.a. for Posh and flat sales for Cheerful.

The target operating profit for the Beeland operation in two years' time is set at $135m and the board wants an evaluation of these strategies in meeting that target.

Appendix 1

Beeland operation's information for the most recent financial year

	Cheerful	Posh	Total
Variable costs	$ per unit	$ per unit	
Materials	90	120	
Labour	60	80	
Overheads	40	50	
Distribution costs	45	45	
Quality costs	20	30	
Fixed costs	$m	$m	$m
Administration costs	18	18	36
Distribution costs	16	16	32
Quality costs	6	6	12
Marketing costs	80	80	160
Other data	$m	$m	$m
Revenue	448	308	756
Capital employed	326	250	576
	Units	Units	Units
Total market size (millions)	9·33	1·33	10·66
Beeland operation's sales (millions)	1·12	0·44	1·56

Notes:

1. Cheerful has won one best buy award from the Beeland Consumer Association.
2. Posh has won four best buy awards from the Beeland Consumer Association.
3. The allocations of fixed costs are based on a recent activity-based costing exercise and are considered to be valid.

Required:

Write a report to the board of Lopten which:

(i) calculates the key performance indicators (KPIs) suggested by the board for the assessment of performance of the Beeland operations; (11 marks)

(ii) uses PEST analysis to identify issues in the company's external environment and then evaluates the effectiveness of the suggested KPIs in addressing these issues; (11 marks)

(iii) takes each critical success factor (CSF) in turn and evaluates how the suggested KPIs fit to the CSFs given; (10 marks)

(iv) assesses the extent to which the suggested KPIs would be suitable for use in planning rather than controlling; (5 marks)

(v) evaluates whether the two proposed marketing strategies result in a performance gap. (9 marks)

Professional marks will be awarded for the format, style and structure of the discussion of your answer. (4 marks)

Note: All figures are real for the purpose of this scenario so that inflation can be ignored. Also, round to the nearest $million as appropriate.

(50 marks)

Section B – TWO questions ONLY to be attempted

2 Graviton Clothing (Graviton) is a listed manufacturer of clothing with a strong reputation for producing desirable, fashionable products which can attract high selling prices. The company's objective is to maximise shareholder wealth. Graviton's products are sold through its own chain of stores. Graviton's markets demand designs which are in tune with current fashion trends which can alter every few weeks. Therefore, the business's stated aim is to focus production on these changing market trends by maintaining flexibility to adapt to that market demand through close control of all stages of the supply chain (design, manufacture and distribution).

The chief executive officer (CEO) is unhappy with the current performance measurement system at Graviton. The system was created about five years ago by the finance director who has subsequently retired. The aim of the system was to provide the company with a list of measures which would cover performance at the strategic, tactical and operational levels of management. An example of the most recent performance report is given in Table 1.

Table 1

Graviton Performance Dashboard
Report for the year to Sep 2013

	2013	2012	2011	Change 2013/2012
Financial				
Revenue ($m)	1,723	1,570	1,413	9·7%
Operating Profit ($m)	320	314	308	1·9%
ROCE	15·8%	15·9%	15·9%	
Design				
Design awards won	3	2	3	50·0%
Manufacture				
Average time to market (days)	22·2	22·3	22·1	–0·4%
Distribution				
Deliveries on time	87·0%	86·8%	87·3%	0·2%

Commentary:
- The revenue growth of the business remains strong in a difficult market.
- Return on capital employed matches the industry average of about 16%.
- Time to market for new designs has been maintained at 22 days by paying overtime to designers in order to meet production schedules.

Recent press reports about Graviton have been mixed, with positive comments about the innovative new designs and much admiration over the growth of sales which the business has achieved. However, there has been some criticism from customers of the durability of Graviton's clothes and from institutional investors that the dividend growth is not strong.

The CEO believes that there are major gaps in the current list of key metrics used by Graviton. She wants an evaluation of the current system and suggestions for improvements. However, she has warned you that the board wants a reasoned argument for each measure to be included in the list in order to avoid overloading each level of management with too much data.

Although rapidly growing, Graviton has had some problems in the last few years which have appeared on recent internal audit reports. It was found that a senior manager at factory site 1 has been delaying invoicing for completed orders in order to ensure that profit targets are met in both the current and the next accounting period. At factory site 2, there has been excellent return on a low capital employed figure although there is a significant adverse variance in the equipment repairs account.

The board is dominated by long-serving executives who are sceptical of change, given Graviton's growth over the past three years. At a recent board meeting, they have shared the CEO's concern about data overload and also have pointed out a variety of problems with the use of performance measures. They presented the CEO with a list of three common problems (myopia, gaming, ossification) and argued that the current good performance of the business did not justify changing the performance measurement system. The CEO needs to know if these problems apply to Graviton and if they do, then what can be done to manage them.

Required:

(a) Evaluate the current performance measurement system using the Performance Pyramid of Lynch and Cross. (15 marks)

(b) Assess whether the three problems listed by the board apply to Graviton and suggest appropriate performance management solutions to them. (10 marks)

(25 marks)

3 Quark Healthcare (Quark) runs a number of large hospitals which provide general medical care for the people of Veeland. Veeland is an advanced economy and healthcare is considered to be a high skill, high technology and high status industry. It is compulsory for the people of Veeland to purchase health insurance and then the insurance companies reimburse the healthcare providers for services delivered. The insurance companies audit the healthcare providers and grade them for value for money. As there are a number of hospital chains (such as Quark), the insurers will encourage their insured customers to use those which are most efficient.The ultimate sanction for a healthcare provider is for an insurance company to remove them from the list of acceptable providers.

Quark has large amounts of capital tied up in expensive medical equipment and a drug inventory. The existing systems for accounting for these items are traditional ones aimed at avoiding theft and obsolescence. Quark has an inventory system which requires regular (weekly) physical checks of the drugs in inventory in order to update it. It is important that the right drugs must be in easily accessible stores (located throughout the hospital) in order to act quickly in case of a medical emergency. Also, the accounting staff at Quark maintain a non-current asset register (NCAR) which logs the location of all major assets including medical equipment. The problem with the non-current asset register is that it is often out-of-date as doctors will take equipment in time of emergency and not properly log its new location. This often leads to equipment lying unused in one area of the hospital while being searched for in another area, to the detriment of patient care.

Quark has recently instituted a tagging project where radio-frequency identification devices (RFID) will be attached to the most valuable pieces of equipment used in treatment and also to batches of high-value drugs. The hospitals are fitted with WiFi networks which can pick up the RFID signal so that the RFID tags will be detectable throughout a hospital. The tags will identify the object which they are attached to by a unique identification number and will give its location. The identifier number will link to the inventory system which will identify the product, the quantity initially delivered in that batch and the date of delivery. The RFID information will be accessible through the computer terminals throughout the hospitals.

The chief financial officer (CFO) of Quark has asked you to advise him on the impact of this new system on performance management at Quark. He has suggested that you look at the costs and benefits which will be associated with producing the information from the RFID system, the impact of the nature of the information supplied, the changes to performance management reporting and how the new information could be used for improved control at the hospital. He is keen to be seen to be at the forefront of accounting and management developments and has been reading about cost control techniques. Recently, he has heard about 'lean' systems, so wants to know how the RFID system and its impact on the hospital fit with this concept. Given the importance of the medical staff in running the hospital, he also wants to know how their behaviour will be affected by the control information from the RFID system. There is a very strict social order among these staff (in increasing order of skills: nurses, general doctors and specialist doctors) which regularly causes friction when one group feels it is not given its due status. For example, recently, the general doctors agreed to a new method for nurses to record drugs administered to patients but this new system has not been fully implemented due to complaints by the nurses and specialist doctors who were not consulted on the change.

Required:

(a) Assess the impact of the radio-frequency identification devices (RFID) system on the performance management at Quark as suggested by the CFO. (12 marks)

(b) Evaluate whether the overall management of the hospital can be considered to be 'leaner' as a result of the RFID information system. (7 marks)

(c) Evaluate how the medical staff's attitudes will influence the design and implementation of the RFID system and how it might be used to promote responsibility and accountability at the hospital. (6 marks)

(25 marks)

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Question 4 begins on page 8.

4 You are a performance management expert brought in by the Chief Executive Officer (CEO) of the Department of the Interior for the country of Essland. The department is a branch of the Essland government which handles security, policing, immigration and border control. The CEO is a civil servant and he reports to the Minister for the Interior. The Minister for the Interior is an elected politician selected by the Prime Minister of Essland, who leads its government.

The newly-elected Minister for the Interior has instructed the CEO to implement his policy for improving the regional police forces' performance by copying the method used for schools. In a recent initiative by the School's Ministry, a league table for the hundreds of schools in Essland was created, showing the best and worst in terms of examination performance only, in order to motivate senior school managers to improve. The league table was used to create targets for assessing the schools' and their managers' performance. Additionally, parents in Essland have the right to choose which school their children attend and so often base their selection on league table performance. Therefore, the Minister has had a policy review body draw up a method of creating a league table for the police forces.

The CEO has requested your help to clarify his own thinking on this new policy for the four regional police forces in Essland (Cashire (C), Dashire (D), Eshire (E) and Fashire (F)). The CEO needs you to assess the use of the league table using the policy review body's suggested method and has collected the data and calculation of the league table given in Appendix 1 to assist you. He also wants to assess whether the table will help in meeting the Department's aim and goals for the police. The overall aim of the Department (and its police forces) is 'to provide a value-for-money service to ensure that the community can live in safety with confidence in their physical and legal security'. The detailed goals of the Department are to:

- Tackle the underlying causes of crime and achieve long-term sustainable solutions
- Bring perpetrators to justice
- Provide protection and support for individuals and communities at risk of harm
- Respond to community needs by being accessible and engaging with their concerns

The CEO warned you, 'I'm not interested in the performance of the forces. I'm interested in the method of assessment, so don't waste time with your ideas on how to improve actual policing.'

The CEO also wishes to understand the strengths and weaknesses of the use of a league table, its link to targets and the likely reaction of employees to this system of performance management, especially as there is a strong union representing the police. He is worried about the employees' attitude to the introduction of the system and its effects on their behaviour and their sense of accountability. He is also concerned about importing the use of a league table from the schools sector, as it might not be appropriate here.

Required:

(a) Evaluate the method of calculating and measuring the Force Scores for use in the league table in achieving the Department of the Interior's aims and goals. (14 marks)

(b) Discuss the merits of league tables in performance management and address the CEO's concerns over their use in managing the performance of Essland's police forces. (11 marks)

(25 marks)

Appendix 1

The appendix defines the policy review body's method for scoring each force, provides the basic data for each force and then calculates the current force score placing the forces into a league table:

Force score = Rank 1 x 0·25 + Rank 2 x 0·25 + Rank 3 x 0·25 + Rank 4 x 0·25

where each Rank is the ranking from 4 to 1 which each force gets for each of the following variables (4 is best, 1 is worst):

- Rank 1 is based on the number of crimes per 10,000 of population
- Rank 2 is based on the solution rate for crimes reported in the year
- Rank 3 is based on the user satisfaction score (based on a survey of the population)
- Rank 4 is based on the percentage of calls to police answered within 10 seconds

For example, a force which was top ranked in each of the Ranks would get a Force Score of 4 (= 4 x 0·25 + 4 x 0·25 + 4 x 0·25 + 4 x 0·25).

Data by region:
For the calendar year 2012

	C	D	E	F
Population	1,250,000	900,000	1,700,000	1,500,000
Number of crimes reported in year	62,500	47,250	83,300	63,000
Number of crimes solved in year	31,250	22,680	45,815	33,390
User satisfaction score	71%	80%	73%	68%
Percentage of calls to police answered within 10 seconds	92%	93%	91%	94%
Number of police force employees	6,200	4,400	8,500	7,900
Cost of police force for year ($m)	404	298	572	510

Calculation of Force Score:

	C	D	E	F
Number of reported crimes per 10,000 of population	500	525	490	420
Rank 1	2	1	3	4
Solution rate for crimes reported in year	50%	48%	55%	53%
Rank 2	2	1	4	3
Rank 3 (user satisfaction)	2	4	3	1
Rank 4 (call handling)	2	3	1	4
Force score	2	2·25	2·75	3

The league table for 2012 is:

	Force	Score
1.	F	3·00
2.	E	2·75
3.	D	2·25
4.	C	2·00

Note: You should assume that the calculations in Appendix 1 are accurate.

Present Value Table

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

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

Discount rate (r)

Periods (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

Discount rate (r)

Periods (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