Professional Level – Options Module

Advanced Performance Management

March/June 2018 – Sample Questions

P5 ACCA

Time allowed: 3 hours 15 minutes

This question 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 9 and 10.

Do NOT open this question paper until instructed by the supervisor.

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

Paper P5

Think Ahead ACCA

The Association of Chartered Certified Accountants

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The question paper begins on page 3.

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

1 Chiven Stores (Chiven) is a listed clothing retailer in Beeland. Its overall aim is 'to become the largest clothing retailer in Beeland and deliver exceptional value to its shareholders'. It has recently dropped down the clothing retailer rankings from fourth to fifth largest. Shareholders have expressed concern at the lack of dividend growth at a time when spending in the Beeland clothing market has been growing.

There has been a recent change of chief executive officer (CEO) and the new CEO has identified that the performance reporting at Chiven is not fit for the needs of the business. She has asked you to prepare a report to the board to address the performance measurement and management issues which she sees as most important. Her plan is to achieve the overall aim by 'maximising our opportunities from new technology and increasing our currently small web presence'. She wants a detailed evaluation of the current performance report which is used by the board for its annual review of the business (Appendix 1). She wants this task split into two parts: first, evaluate the existing set of measures and their presentation and then second, add three new measures which you believe address key issues for the business but are not currently on the report. She has stated that the report does not need a commentary as she and the finance director talk through the report in detail with the board.

In an additional effort to drive improvement and gain competitive advantage for Chiven, the board has decided to use the value chain as a business integration tool. The CEO has provided a copy of the value chain diagram which was discussed at the last board meeting (Appendix 2). She believes that further improvements in Chiven's performance can be achieved through simplification of the supply chain. The CEO believes that this has implications for the performance measurement and information systems at Chiven and wants your report to address this as well.

Finally, the CEO has already identified one important reason for Chiven's poor performance and that is its failure to make use of 'Big Data' in relation to Chiven's web sales. She believes that the board does not understand the implications of the volume, velocity and variety of this data for the business and wants you to write a guide for them. She is aware that this is a new and rapidly developing area for most businesses, so she considers that the board should also be briefed about its risks and challenges.

The CEO wants a report which she can present to the board to address these various performance issues at Chiven.

Required:

Write a report to the board of Chiven to:

(i) Evaluate the performance report in Appendix 1 as requested. (20 marks)

(ii) Using the data in Appendix 1, recommend (with appropriate calculation and justification) three new performance measures for Chiven as requested. (8 marks)

(iii) Advise on appropriate performance measures and systems for Chiven when using the value chain approach to simplify the supply chain. (7 marks)

(iv) Discuss the development of Big Data and its potential impact on Chiven's information systems, including the risks and challenges it presents. (11 marks)

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

(50 marks)

Appendix 1

Chiven Stores

Annual performance report for year ended March 2018

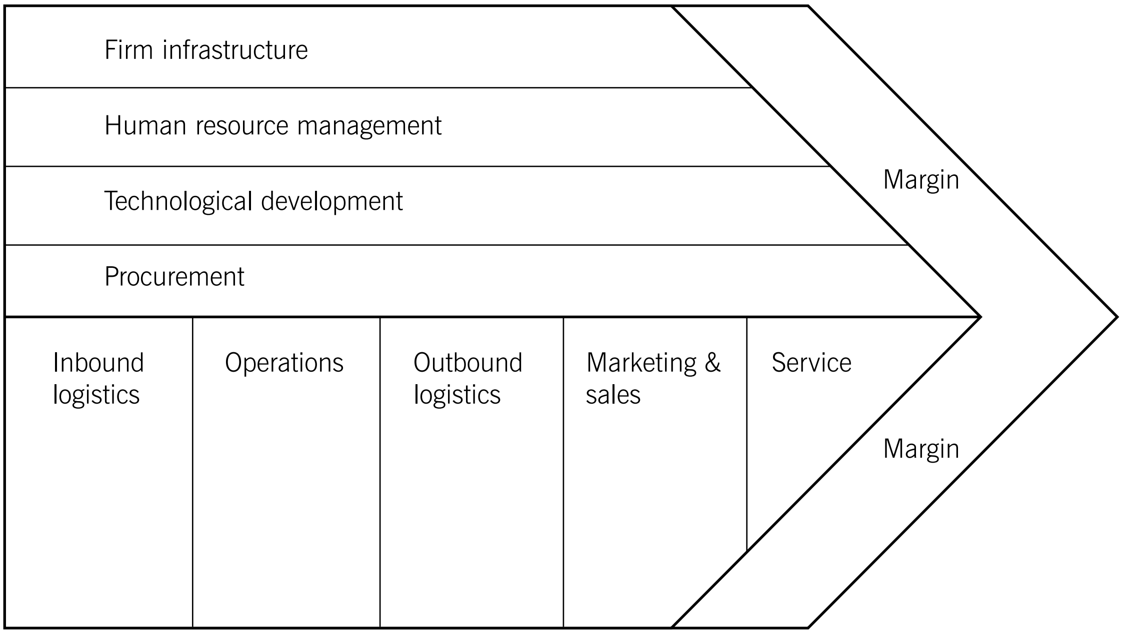
Revenue ($m)		Region	A	B	C	Total	2018 Total	2017 Total
Clothing								
	Men's		178	356	178	712		
	Women's		297	593	297	1,187		
	Children's		119	237	119	475		
		Total	594	1,186	594		2,374	2,351
Other								
	Men's		19	39	19	77		
	Women's		32	65	32	129		
	Children's		13	26	13	52		
		Total	64	130	64		258	255
						Total	2,632	2,606

Operating profit margin (%)		Region	A	B	C		2018 Total	2017 Total
Clothing								
	Men's		15·5	15·7	15·2			
	Women's		16·2	16·3	15·9			
	Children's		18·1	18·3	18·0			
Other								
	Men's		15·5	15·8	15·2			
	Women's		16·2	16·4	15·8			
	Children's		18·1	18·2	17·8			
						Overall	16·5	16·5

	2018	2017
Number of stores	542	540
EPS ($)	0·56	0·56
Dividend per share ($)	0·28	0·28
EVA™ ($m)	21	24
Inventory turnover rate (days)	32	32
Average number of product lines bought per supplier	66	64
Floor space (square metres)	850,000	828,000
Market share (%)	9·8	10·1
Number of employees	40,500	39,400
Number of suppliers	161	161
ROCE (%)	8·3	8·5
Number of accidents in stores	256	255
Average queuing time for customers (seconds)	125	128
WACC (%)	5·8	5·7
Average time between customer entry and employee greeting (seconds)	248	232
Inventory obsolescence/loss write-downs ($m)	25	25

Appendix 2

Value chain diagram



Section B – TWO questions ONLY to be attempted

2 Luvij manufactures high quality, luxury women's footwear. It sells its products on its own website and also to small independent retailers. In order to monitor performance and aid decision-making, Luvij collects sales data on all of its footwear ranges and feedback on its designs from customers and retailers. In addition, to ensure that prices remain competitive, Luvij has a team of staff to monitor the prices of similar products on competitors' websites and to identify design trends in the market, which change frequently, and from season to season. Generating new footwear designs consistent with changing market trends is a critical success factor for Luvij. The large volume of data collected is entered into a complex spreadsheet by one data entry clerk.

Luvij operates a functional structure with different departments for sales, production, purchasing and design. The spreadsheet is sent by email to the senior manager of each of these departments at the end of each quarter. The senior manager for the sales, production and buying departments are expected to generate the relevant sales, production and purchasing forecasts by analysing information contained in the spreadsheet. The senior manager of the design department uses the information to generate new footwear designs consistent with market trends.

Luvij has a strategic objective to become the market leader in the sale of high quality, children's footwear to small independent footwear retailers. It has already invested heavily in market research and developing innovative designs. To reduce the risks of not achieving this strategic objective, for example, by having insufficient capacity to produce a larger range of footwear styles, the board is considering entering into a joint venture with Shirville.

Shirville is a large manufacturer of exclusively children's footwear. Its advanced manufacturing machinery and production techniques mean that it can produce the high volumes required to supply supermarkets and chain stores* found on the main streets of most towns and cities. Shirville's objective for the joint venture is to utilise spare production capacity it has in a factory which it holds on a lease which expires in three years.

One recently appointed board member at Luvij has commented, 'I believe that the external information on market trends and competitors' prices compiled in the quarterly spreadsheet is of limited usefulness as I have heard complaints from managers that they have difficulty understanding the large volume of data given to them, and that they often receive this too late. The company I worked for in my previous job used a unified corporate database to share information in real time across all parts of the business. A similar unified corporate database may be useful for Luvij. I am also concerned about the potential problems of measuring and managing the performance of the joint venture with Shirville. The fact that the two businesses have different objectives is just one example of why these problems may occur, though there will also be other reasons.'

*Chain stores are large retailers with multiple stores based in different locations.

Required:

(a) Explain the factors which might limit the usefulness of the external information currently used by Luvij, and evaluate how the use of a unified corporate database could help to overcome these limitations. (15 marks)

(b) Advise the board on the potential problems with the measurement and management of the performance of the joint venture with Shirville. (10 marks)

(25 marks)

3 Bazeele hires out plant and machinery to small firms working in the construction industry. Bazeele's senior managers, including the chief executive officer (CEO), have worked in the business since it was established 30 years ago, and they own the majority of the shares. During that time, Bazeele has acquired many smaller plant hire businesses. Of these business units, those which have underperformed after acquisition have either been sold on or restructured, for example, to increase their operating margins. Bazeele has recently diversified by hiring out large items of plant to large construction firms working on major infrastructure projects. These projects can last for up to 10 years. Strong growth in the general economy has increased the number of these large projects and has also led to a predicted large increase in bank interest rates.

The shareholders' objective is for Bazeele to maintain its historic return on capital employed (ROCE). Managers at business units are given the objective of maintaining net profit margins of their own business units. Similarly, managers at individual branches of business units are given the same objective according to their own areas of responsibility.

Following two years of poor performance, it has been suggested to the CEO that Bazeele would benefit from adopting a value-based management (VBM) approach.

The CEO requires your advice and has said, 'The shareholders are unsure what VBM is, whether it will benefit Bazeele, and what changes the business would need to make if it were to adopt it. All managers in the business are already clear what their objectives are. For example, one business unit manager recently postponed some expensive staff training on improving customer satisfaction, which I believe was the correct decision. Our recent poor performance has meant we cannot afford this sort of expenditure, especially as we have no information on what levels of customer satisfaction actually are. Personally, I dislike change, but would not object to the adoption of VBM if it was thought to be beneficial for Bazeele. The shareholders have heard that economic value added (EVA™) can be used to measure whether Bazeele has created or destroyed value for its shareholders, but this has not yet been calculated.'

Details of the company's recent performance are given in Appendix 1.

Required:

(a) Evaluate whether a value-based management approach is appropriate for Bazeele. (7 marks)

(b) Explain to the CEO what changes Bazeele would need to make to its performance measurement and performance management systems if it were to adopt a value-based management approach. (7 marks)

(c) Using the information in Appendix 1, advise the CEO whether Bazeele has generated economic value for its shareholders. (11 marks)

(25 marks)

Appendix 1 – **Notes from Bazeele's management accounts for the most recent year end**

1. Net profit after tax for the year: $10m
2. Capital employed at the start of the year: $250m
3. The interest charge for the year was $15m on a variable rate loan with an interest rate of 10%. Bazeele is funded 60% by debt and 40% by equity. The cost of equity is 12%. Bazeele pays tax at a rate of 20%.
4. The depreciation charge for non-current assets for the year was $6·0m; the economic depreciation of which was $14·0m. At the start of the period, the accumulated economic depreciation of non-current assets exceeded its accounting depreciation by $16·0m.
5. Brought forward at the start of the year was a provision of $4·8m which was made in respect of a debt owed by a customer who has since repaid it.
6. Within the current profit or loss account there is an expense for $0·6m for advertising in trade magazines. This led to several enquiries from new customers involved in large infrastructure projects, which has resulted in Bazeele signing at least two large contracts after the end of the accounting period.

4 Laurel and Parsley (LP) is an architectural consultancy firm, specialising in the design of large commercial buildings. Due to an economic recession, which began in late 2017, demand for LP's services fell dramatically, and there was insufficient work for all of the firm's consultants. LP's chief executive officer (CEO) believes that the recession will be short and that LP should do all it can to retain its highly skilled and experienced workforce ready for when demand increases after the end of the recession. The rest of the board believe that the firm should cut the size of the workforce until that time, as LP already has an operational gearing ratio 50% higher than its main rival.

Despite the board's objections, the CEO asked for LP to prepare bids for work on non-commercial building projects, which have so far been unaffected by the recession. Though LP had little track record in designing non-commercial residential buildings, it successfully tendered a fixed fee for the design work on a large housing development. As the finance director had been absent due to illness for a year, the CEO prepared and submitted the bid himself. To meet the tight deadlines for submission of the bid, this was done at a time when most of the board were taking their annual holidays.

It quickly became apparent that the staff resources required for the housing development project were much greater than the CEO had anticipated in the bid. In the rush to submit the bid and start work, staff were not given clear milestones for completion of the project, or individual performance targets. This has led to staff working long hours, morale has fallen, and several experienced employees have since left the firm. The project is well behind schedule, and LP's client has said it will take legal action against the firm to recover any financial losses caused by the delay.

It has been suggested to the board that LP may be at risk of corporate failure, as it has score of 47 using the Argenti A Score model, which is shown in Appendix 1.

Required:

(a) Using Argenti's A Score model, evaluate whether LP is at risk of corporate failure. (12 marks)

(b) Advise LP what performance management systems are needed in order to improve performance in respect of each of the mistakes and symptoms you have identified in part (a). (7 marks)

(c) Evaluate the usefulness of using qualitative models such as the Argenti A Score in predicting corporate failure. (6 marks)

(25 marks)

Appendix 1

Argenti A-Score model

Defects
↓
Mistakes
↓
Symptoms

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