



**CERTIFIED PUBLIC ACCOUNTANT
ADVANCED LEVEL 2 EXAMINATIONS**

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY 30, MAY 2024

INSTRUCTIONS:

- 1. Time Allowed: 3 hours 45 minutes (15 minutes reading and 3 hours 30 Minutes writing).**
- 2. This examination has two sections: A & B.**
- 3. Section A has one Compulsory Question while section B has three optional questions to choose any two.**
- 4. In summary attempt three questions.**
- 5. Marks allocated to each question are shown at the end of the question.**
- 6. Show all your workings where necessary.**
- 7. The question paper should not be taken out of the examination room**

SECTION A

QUESTION ONE

The diagram below shows Amahoro Mount Limited (AML) group company structure, the company was founded twenty years ago and is involved almost in every business sector including farming, transport, hotel, and leisure industry among others.

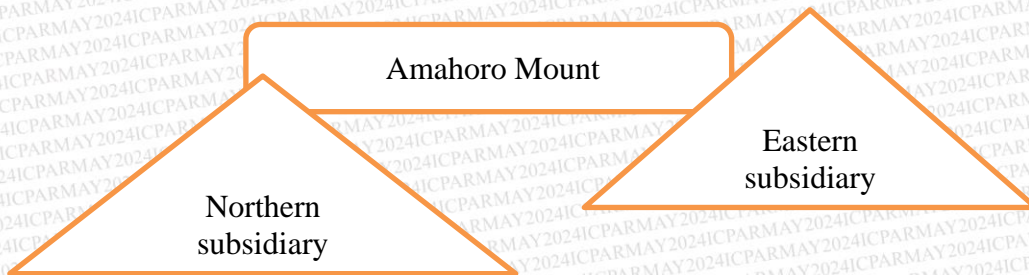


Fig 1. Company structure

AML is currently evaluating its own performance and that of its subsidiaries. You have been provided with the following information as their external performance analyst to do a review and write reports on various issues

AML divisional performance

AML has a subsidiary in the northern region, the manager of the northern subsidiary is not happy at about the review parameters being used on her performance evaluation, these are Return on investment (ROI) and residual income (RI). She argues that these do not reflect her performance at all as they use financial figures which are prone to manipulation and factors beyond her control. she argues that she should be evaluated on factors such as growth in market share, which according to her has increased by more than 50% over the two-year period. This is reflected growth in revenue

AML wants all its division to achieve ROI of at least 20%

Below are the results for the north subsidiary

Year	2022	2023
	FRW million	FRW million
Sales revenues	6,200	9,600
Less variable cost	3,005	5,076
Contribution	3,195	4,524
Less fixed costs	2,000	2,500
Net profits	1,195	2,024
Opening controllable assets	14,000	8,000
Closing controllable assets	8,000	25,000

Additional information:

1. Allocated head office cost amounted to 48% and 18% of variable cost in year 2022 and year 2023 respectively
2. Cost of capital to the division is 15.5%

Required:

- (a)
 - (i) Calculate the Return on Investment (ROI) and Residual Income (RI) for each of the two years presented above and comment. (4 Marks)
 - (ii) Referring to calculations in (a) above, Explain the effect of changes in ROI would have on a manager's behavior in investments undertakings. (2 Marks)
 - (iii) Explain the advantages and disadvantages of using residual income (RI) as measure of divisional performance. (4 Marks)
- (b) Transfer pricing

The northern subsidiary is in hotel and leisure industry. It therefore requires fresh supply of foods for its visitors. AML has a vast diary and vegetable farming activities in the eastern region, the produce from this activity is mainly for export market, often but with the intervention of management, the eastern region does supply to the northern region. However, of late the manager for eastern region has indicated that they will no longer make any internal supplies to the north subsidiary as it is working at full capacity and export market is more lucrative, currently it has export contracts which if not full filled, will attract penalty costs of FRW 20,000 per kilogram (kg). Total variable cost of a fresh produce at the eastern region farm is FRW125,000 per kg.

Fresh produce can be purchased by the Northern subsidiary at local markets at a cost of FRW 170,000 per kg. However, whenever they buy from the eastern subsidiary, they are given at a reduced price of FRW150,000 per kg as they do not incur any packaging and freight costs associated with export market.

All fresh supplies for export market are sold at FRW 225,000 per kg

Required:

- (i) Discuss the aims of transfer pricing (3 Marks)
- (ii) Give a reasoned argument a transfer price or a range of transfer prices that should be acceptable between the two subsidiaries and advice what price the northern subsidiary should pay (5 Marks)

(c) Just in time and Total Quality Management

Northern subsidiary is disappointed that it cannot secure supplies of the fresh produce from the eastern region subsidiary even after a plenty negotiations and head office intervention, it is mainly concerned with the quality and timely delivery of the produce. In hotel industry, any sort of food poisoning will be detrimental.

It is now considering alternative ways of managing its supply of fresh produce and are considering the using of Just in Time (JIT) and Total Quality Management (TQM)

Required:

Describe how JIT and TQM may be employed by the northern subsidiary in managing its fresh produce supplies (10 Marks)

(d) Product performance measurement

AML has provided you with data below so that you may assist in performance evaluation of production and sales for one of its premium products. The Company operates a standard marginal costing system, data for the last quarter, for product LOTO is as follows:

Selling price per unit	FRW 1100
Material KK	3.5 kg at FRW 180 per kg
Material MW	2.1kg at FRW 140 per kg
Labour	0.20 hrs. at FRW 650 per hour
Fixed production cost for the quarter were	FRW 6,250,000

Actuals for the quarter were as follows:

Production and Sales	5,200 units were produced and sold for FRW 5,480,000
Material KK	1,320 Kgs was used at a cost of FRW230,000
Material MW	572 Kgs was used at a cost of FRW84,000
Labour	Total hours worked 136
Total hours paid were	142 hours at a cost of FRW162,000
Fixed costs	FRW 64,000
Budgeted production and sales for the quarter were	5,700 units

Had the company known in advance, it could have revised its sales and production volume, the overall market contracted by 10%, the management would have as well revised selling prices to FRW950 per unit

Labor rates were revised to 0.2 hours per unit, payable at FRW1,050 per hour

Required:

Calculate the following variances:

- (i) **Sales volume, sales price planning and operational variances** (4 Marks)
- (ii) **Price, mix and yield variances for each material** (3 Marks)
- (iii) **Comment on the usefulness of calculating mix and yield variance for materials** (4 Marks)
- (iv) AML uses time series as a way of predicting the future and is concerned that at sometimes the methods are quite unreliable, more often than not, it has had to sell some of its product at lower than cost price simply because it did rely on the model but it gave wrong predictions.

Required:

Briefly discuss the advantages and disadvantages of using times series to as a method analysis (5 Marks)

(e) **Balance Score Card (BSC)**

Kona is a subsidiary of Amahoro Mount group of companies and is one of the many accounting colleges training students in the country who wish to obtain a professional accounting qualification. It has been advised to make use of BSC as it gives a wholesome performance measurement.

Currently the other components of the score card have been measured and are exceeding expectations. Kona are carrying out the ‘customer perspective’ which they believe is most important indicator in the industry.

They have provided you with the following data which also includes data from two of their closest competitors.

‘Overall Satisfaction’ is the ultimate indicator for customer perspective in the balance score card

Name of the accounting Institution	Overall satisfaction	Availability of learning materials	Punctuality in addressing student issues	Number of hours per paper
Kona	**	92	88	70
Manu	**	80	90	65
Muck	**	89	80	80

Overall satisfaction is calculated using the average what students place on each of the three criteria above

Overall satiation is calculated as an average of the following weights

Learning materials	50%
Punctuality	45%
Class time	62%

Required:

- (i) Calculate the overall satisfaction and make a comment on your finding (2 Marks)**
- (ii) For the remaining sections in the balance score card, briefly describe how it would be used by Kona in performance measurement, giving examples (4 Marks)**

(Total: 50 Marks)

SECTION B

QUESTION TWO

Segen Construction Plc (SC)

SC deals mainly in construction of roads and bridges, however due to stiff competition from ‘briefcase’ companies, SC has seen its profitability plunge and would therefore like to diversify in other areas in order to maintain its profitability. The company has decided to venture into constructing commercial and residential building. It has identified lucrative market niches in high rise commercial building, (H) which will be constructed in cities and town centers, sub-urban houses (S) for middle class income citizens and luxurious exotic building (E) for affluent members of the society

These buildings will be constructed with an aim of immediate disposal as soon as they are completed

Analysis of this nice market has identified that the sector suffers from lack of key building materials. All key building materials are imported and there is quota allocation for companies in the sector, skilled labour is also scarce and are in high demand among the companies in the sector

Given above restrictions, management is not sure of how many of each type of building to construct and sell. They have asked you as a qualified CPA to come up with a production mix that will maximize profitability for the company

You have been provided with the following information

	Types of building		
	High Rise	Sub Urban	Exotic
Demand (Number of buildings)	20	40	10
	Frw'million	Frw'million	Frw'million
Selling prices per building	25	14	30
Construction cost per building			
Material A	8	4	12
Material B	4	4	5
Skilled labour	6	2	4
Fixed overheads	2	2	2

Additional information:

Production factor	Availability
Skilled Labour	6 million hours
Material A	4 million Kilograms (kgs)
Material B	3 million litters (ltrs)

Maximum demand for Exotic building is anticipated not to exceed 10 million units

Material A cost Frw 400,000 per kilogram, material B costs Frw 600,000 per liter and labour cost is Frw 200,000 per hour

Use the information below to help in answering:

1. H, S and E represent **H**igh rise commercial building; **S**, sub -urban residential house and **E**, exotic luxurious building respectively.
2. A, B, S and D represent slack variables for **Material A**, **Material B**, **Skilled labour** and **Demand for Exotic building** respectively.

Required:

- a) Using a linear programming approach:**
 - (i) Formulate a linear programming model.** (6 Marks)
 - (ii) Formulate an initial simplex table.** (4 Marks)

SC management has been concerned of how much time and money is wasted by the warehouse department. There has been consistent loss of documentation, incorrect issuance of building materials to construction sites among other issues. This has often led to stoppage in work. The CEO and together with the warehouse team have implemented a pilot business process re-engineering in the department, the pilot project will be fully rolled to other department should it prove 'useful'

More recently, SC management has found a reason to question the accuracy and quality of the raw material delivered by one supplier. Another supplier now only dispatches material to SC in a full-load quantity as it wishes to optimize the use of its delivery vehicles.

The CEO has asked you as a performance management expert to complete the post-implementation review of the pilot project by assessing what it has delivered in financial terms. The project identified that 10 of the warehouse staff spend about half of their time matching goods delivered documents to purchase orders and dealing with subsequent problems. It was noted that 25% of all such matches failed and the staff then had to identify the issue and liaise with the purchasing department in order to get the goods returned to the supplier and a suitable credit note issued. The project introduced a new information system to replace the existing paper-based system. The new system allowed purchase orders to be entered by the purchasing department and then checked online to the goods delivered as they arrived at the warehouse. This allowed warehouse staff to reject incorrect deliveries immediately.

The following are information relating to old system:

Average staff wage in warehouse FRW2,500,000 per year,

Purchasing staff time in handling delivery queries 8.5 days per week and average staff wage in purchasing is FRW3,200,000 per year for working in a 5-day week

The following are information relating to New IT system costs:

Hardware for warehouse and purchasing depts. FRW22,000,000

Software total cost FRW27,500,000

On-going servicing cost (per year) FRW2,250,000

It is expected that the new system will last for eight years.

The CEO had mentioned before that BPR will be applied across all SC departments so as well as completing the post-implementation review, you are required to show how BPR will change the accounting information systems and the culture at SC as the current accounting system is a traditional one of overhead absorption based on labour hours with variances to budget used as control indicators. The CEO heard that an activity-based approach using enterprise resource planning (ERP) systems is fairly common and wants to know how these ideas might link to BPR at SC.

The CEO is concerned that middle management unrest may be a problem at SC. For example, the warehouse manager was uncomfortable with the cultural change required in the BPR project and decided to take early retirement before the project began. As a result, a temporary manager was put in place to run the warehouse during the project.

Required:

b) i) Analyze the financial impact of the pilot business process re-engineering (BPR) project in the warehousing operations of SC (6 Marks)

ii) Discuss the Impact of BPR on the culture and management information systems at SC. (9 Marks)

(Total: 25 Marks)

QUESTION THREE

Amani Best Comfort Services (ABCS) operates a chain of eight hotels across the country. It prides itself on the comfort of the rooms in its hotels and the quality of service it offers to guests. The majority of ABCS's hotels are located in major towns and have previously been successful in attracting business customers. In recent years, however, the number of business customers has started to decline as a result of tough economic conditions

ABCS's policy is to set standard prices for the rooms in each of its hotels, with that price reflecting the hotel's location and taking account of competitors' prices. However, hotel managers have the authority to offer discounts to regular customers, and to reduce prices when occupancy rates in their hotel are expected to be low. The average standard price per night, across all the hotels, was FRW 40,000 in 2023, compared to FRW35,000 in 2022. In addition to room bookings, the hotels also generate revenue from the additional services available to customers, such as restaurants and bars.

Summary from ABCS's management accounts:

	Year ended 31-Dec-23 FRW'000	Year ended 31-Dec-22 FRW'000
Revenues - rooms at standard price per night	111,890	104,976
Rooms discount or rate reduction	(16,783)	(11,540)
other revenues: food, drink	24,270	23,185
Total revenue	119,377	116,621
Operating costs	(95,462)	(92,379)
Operating profits	23,915	24,242

Other performance information:

Year ended	Year ended	31 December 2023	31 Dec 2022
Capital employed (Note 1)	FRW	39,500,000	FRW39,100,000
Average occupancy rates (Note 2)		74%	72%
Average customer satisfaction score (Note 3)		4.2	4.5

Note 1: Capital employed is calculated using the depreciated cost of non-current assets at all ABNCS's

Note 2: Occupancy rates for the year ended 31 December 2023 were budgeted to be 72%.

Note 3: Customer satisfaction scores are graded on a scale of 1–5 where '5' represents Excellent'. On average, in any given town in Rwanda, the top 10% of hotels earn a score of 4.5 or above and the top 25% of hotels earn a score of 4.2 or above.

Two themes are becoming increasingly frequent in the comments ABCS customers make alongside the scores:

- (1) Repeat customers have said that the standard of service in recent visits has not been as good as in previous visits.
- (2) The rooms need redecorating, and the fixtures and fittings need replacing. For example, the beds need new mattresses to improve the level of comfort they provide.

ABCS had planned a two-year refurbishment programme beginning in 2023 of all the rooms in each hotel. However, this programme has been put on hold, due to the current economic conditions, and in order to reduce expenditure.

The chief executive Officer (CEO) of ABCS is planning to introduce an incentive system to the eight managers of the hotels so as to try and improve the performance of the businesses by those managers and even the workers to improve and enhance their commitment to their work. The CEO is planning to incorporate both financial and financial incentives and also ensure all the staff are included in the incentive scheme that will improve the performance of the hotels. The CEO need to come up with an incentive scheme that he will be able to convince the board so that they can approve the proposed scheme.

Required:

- a) Using the information provided, **discuss Amani Best Comfort services' financial and non-financial performance for the year ended 31 December 2023** (14 marks)
- b) **Describe three alternative competitive business strategies that ABCS can apply to achieve a sustainable competitive advantage.** (6 Marks)
- c) **Advice the CEO of ABCS on five potential benefits of implementing an incentive system that he could put in his proposal to board to convince them.** (5 Marks)

(Total: 25 Marks)

QUESTION FOUR

Uwamaliya Plc (Uwamaliya) is a large conglomerate company with subsidiaries in almost every sector, including medicinal research, residential homes construction amongst other sectors. The company is loved by investors as it is well diversified and is always coming up with new and innovative products. It has heavily invested in its research and development division.

Product development

Uwamaliya has developed a “wonder drug” that will treat all disease except death, it is unsure at what the introductory price the drug should be sold and is considering to either offer low introductory prices and gain market share or to offer it a premium and recover development cost before others to ‘copycat’

The following data and information relate to the “wonder drug”

These are unit costs

	FRW
Material cost	280
Other variable costs	90
Labor	0.75 hours (see note 1 below)

Notes

1. Labor is currently working at full capacity and the kind needed for this product are scarce and hard to find. In this case, man hours will have to be borrowed from other departments from where they are paid FRW 480 per hour,
2. The other production in will have to stop when the wonder drug is being produced, the contribution per hour is FRW 120
3. The product is expected to be price sensitive and market research is currently predicting that for every decrease in price by FRW400, demand will increase by 1,000,000 units, however, due to limitation of other factors, production and demand cannot exceed 4,000,000 units

Required:

(a) Calculate the following:

- (i) Sales price at which profits is maximized and total contribution at that price. (10 marks)
- (ii) Discuss the two pricing options floated above (6 marks)

“New information”

The CEO, Mrs. Venny Liya recently attended a workshop about performance appraisal for which the presenter emphasised on use of Value Based management (VBM) approach as a better alternative for proper evaluation of investors objectives. The facilitators of the workshop went further to say that it is important to evaluate both the economic and managerial performance of the company.

The CEO has declared that business must focus on optimizing its value generation rather than getting large through acquisitions. She has developed an elaborate improvement program for the company.

You are the performance management expert within the company and the CEO wants your view on the use Economic value added (EVA) as the key performance metric and utilization of Value based management (VBM) approach in ensuring value creating decisions.

Required:

- (b)
- (i) **Explain the steps that Uwamaliya plc can apply in management process when implementing VBM approach. (6 Marks)**
- (ii) **Explain why it is preferable to distinguish between managerial and economic performance (3 Marks)**

(Total: 25 Marks)

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