INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS OF RWANDA

Driving Sustainable Performance

CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

FRIDAY: 7 DECEMBER 2018

INSTRUCTIONS:

1. **Time Allowed: 3 hours 45 minutes** (15 minutes reading and 3 hours 30 minutes writing).
2. This examination has one case study.
3. Show all your workings.

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CASE STUDY

SIÈCLE MANUFACTURERS LIMITED

1 Background and corporate governance

Siècle Manufacturers Limited (SML) was established in 2007 after banning the use of plastic material in Rwanda by government through parliament. SML's owners identified an opportunity of manufacturing paper bags which was an alternative to polythene bags even though majority of the businessmen resorted to importation. SML is located in a designated economic zone of Kigali which is Rwanda's largest industrial hub.

SML is headed by a Chief Executive Officer (CEO) who reports directly to the Board of Directors (the Board), the top management organ. Senior management comprises of the CEO, Procurement, Finance, Marketing, Personnel and Plant managers. SML has two operational plants, that is plant A for manufacturing activities, and plant B for assembling of vehicles.

SML's vision and mission are premised on environmental protection whereby the owners are keen on investing in activities that are environmentally friendly. Over the years, SML has been winning international and national accolades for being an environmental protection activist.

Vision statement:

"Use business to create solutions for likely future environmental crisis by producing and distributing quality eco-friendly products".

Mission statement:

"Be a reliable partner that produces and distributes quality eco-friendly products for solving environmental crisis profitably."

Strategic objectives:

(i) Through potential investments, to further strengthen the company and position it as a synonym for quality, trust and strength on the market;
(ii) Position ourselves on the local market as a reliable and safe partner in the production and distribution of quality products, with expanding cooperation on the East African Community (EAC) market;
(iii) Develop partnerships with our customers by providing ultimate satisfaction through responses to their demands;
(iv) Efficient and environmentally acceptable use of material resources, development of quality and environmental management system and continuous monitoring of our suppliers;
(v) Increase our export share to 40% of total sales by 2020.

Core values:

(i) Teamwork – we work together, across boundaries, to meet our customer needs
(ii) Respect – we value our people, encourage their development and reward their performance
(iii) Integrity – we uphold the highest standards of integrity in all of our actions
(iv) Quality – we provide outstanding products that deliver premium value to our customers
(v) Accountability – we are personally accountable for delivering on our commitments

Critical success factors (CSFs):

(i) Sustainable profits to shareholders.
(ii) Highly satisfied customers at every interaction.
(iii) A product range which meet clients' evolving needs.
(iv) Environmental friendly innovations.

Statement of commitment to environmental protection:
"We are environmentally focused that all our products are made from an ecological, biodegradable, 100% recyclable and renewable raw materials."

2 Business operations and systems

SML had one plant producing paper bags until 2016 when the government increased taxes on imported used vehicles as a measure to protect the environment from contaminations by fumes from old vehicles. SML acquired license from a Japanese motor vehicle manufacturing company in 2017 to start assembling its salon car type "Primex-V11" from Rwanda. The first home assembled Primex-V11 was unveiled to the world on 28 June 2017 and since then its demand on EAC market has grown tremendously.

SML uses a balanced scorecard (BSC) model for appraising performance of both divisions and individuals. Activity-based costing (ABC) and activity-based budgeting (ABB) systems are used as cost control measures in cost analysis and budgeting processes. The Board has continuously tasked senior management to identify an alternative performance appraisal tool that can assess SML as a whole by even looking at the investors' objectives. SML's cash flow situation has been under scrutiny by the Board for the last 2 years and the Board is not convinced with continued use of bank overdrafts year by year. There is a lot of raw material wastage and stock obsolescence due to over stocking since management fears that suppliers sometimes fail to fulfill the purchase orders which renders labour idle.
Senior management believes that the BSC model is the best approach for performance appraisal but due to the Board's continued demand for a better alternative, value based management approach (VBM) was identified to be integrated with the BSC model for proper evaluation of investors' objectives. Also the residual income (RI) and return on investment (ROI) will be introduced for proper determination of bonus payments to departmental managers while flexible budgets will be used for proper appraisal of divisions. The just in time (JIT) system was proposed to be introduced for elimination of raw material over-stocking costs. There is belief that life cycle costing, back-flush costing and throughput accounting will work properly in a JIT environment although there are continued fears by senior management in regard to scarcity of raw materials and labour to which senior management preferred buffer stocks as the solution. The finance manager suggested that linear programming is the best tool to guide on use of scarce resources. The CEO assured the Board that senior management is committed to improving SML's cash flow situation and the finance manager will be producing monthly cash budgets to see when the bank overdraft facility can be terminated.

SML embraces use of technological changes and the Board has given senior management a go ahead to invest more in the website which is anticipated to increase the market share across the globe for turnover growth.

3. Performance rewards system

The Board is considering revising the bonus payment scheme for plant managers, which has been previously based on annual profitability targets that are always hiked. This is intended to address complaints made by the plant managers and motivate them using relative performance measurement. The plant managers are not satisfied with deducting costs beyond their control from plants' revenue. RI and ROI have been put forward as the appropriate performance measurements whereby a bonus will be earned by a manager who exceeds the target. SML's required rate of return is 15% and target residual income of RWF 4.5 million has been set. The following information relates to the previous quarter ending 30 September, 2018;

	Plant A	Plant B
	RWF '000'	RWF '000'
Sales revenue	191,200	206,500
Contribution	32,575	32,150
Controllable net assets on 30 June 2018	166,000	200,000
Controllable net assets on 30 September 2018	135,000	170,000

Additional information:

(i) Fixed costs for plants A and B take 6.5% and 7% of sales revenue respectively. Depreciation costs of RWF 5.5 million and RWF 7.5 million for plants A and B are included in fixed costs. Also 30% of depreciation costs relates to assets controlled by headquarters.

(ii) SML charges corporate operational costs to plants and they are included in fixed costs in proportions of 35% and 45% for plants A and B respectively.

4. Operations of plant A

Plant A (which deals in the manufacture of paper bags) has enjoyed steady growth since inception which has created hope to the Board that their strategic objectives are being achieved. The manager of plant A has a proposal of starting manufacturing lacquered paper bags which are considered to be on high demand within the EAC region and Africa as a whole although he is cautious of stiff competition with imports from European and Asian countries.

The CEO who recently attended an international business forum in Dubai was inspired by companies that produce pouches and considered it a viable project to be undertaken by plant A. However, the production of pouches was contentiously debated during the senior management meeting with majority considering it to be contravening SML's commitment to environmental protection and that the project would be very expensive to start yet meager returns will be realised. The SML's required rate of return is expected to improve if any of these investment proposals is implemented. Fortunately, the Board has approved a maximum of RWF 1,250 million for financing new investments by plant A.

Production of lacquered paper bags requires an investment of RWF 450 million and the following cash flows are expected within 8 years;

Year	2019	2020	2021	2022	2023	2024	2025	2026
Cashflows (RWF 'million')	344.97	646.74	684.41	738.02	939.26	1,098.78	1,146.59	1,122.67

Production of pouches requires an investment of RWF 1,050 million and the following cash flows are expected within 5 years;

Year	2019	2020	2021	2022	2023
Cash flows (RWF million)	925.67	830.58	996.20	1,031.83	939.26

Budget estimates from the investment proposals indicate that producing 10,000 cartons of lacquered paper bags and 10,000 cartons of pouches requires the following resources;

	Lacquered paper bags	Pouches	Available
Machine hours	360	360	2,880
Labour hours	150	300	1,800
Direct material (kg)	1,120	560	7,840
Other material (kg)	1,050	1,350	9,450

Net profit per carton of RWF 1,800 and RWF 1,500 is expected to be generated from production of lacquered paper bags and pouches respectively.

The manager of plant A considered issues of resource constraints while making production budget for the month of January 2019. He is certain that the present production of ordinary paper bags will not be affected at all by limited production hours but the proposed investment in lacquered paper bags and pouches will create a bottleneck in production hours. There is a maximum balance of 3,750 hours remaining on the production capacity to cater for the lacquered paper bags and pouches during the month of January, 2019. Producing a carton of lacquered paper bags and pouches requires 0.4 hours and 0.45 hours respectively.

Budget proposals revealed that 5,000 cartons of lacquered paper bags and 4,000 cartons of pouches are expected to be sold during the month of January, 2019. However the marketing manager promised that this demand could grow up to 20% of planned sales given the investment in marketing activities.

The following information also relates to the budget of January, 2019;

	Lacquered paper bags	Pouches
Selling price per carton (RWF)	6,000	5,000
Direct materials per carton (RWF)	3,400	2,300
Variable production costs per carton (RWF)	400	300

Fixed production costs of RWF 12.5 million are expected to be incurred during the month of January, 2019.

As senior management fights to score highly on CSFs and fulfilling the strategic objectives, the manager of plant A tabled a proposal of manufacturing medium solar powered stoves to curb deforestation caused by charcoal stoves. Development of the solar powered stove is expected to take one year and production will commence in the second year. Solar powered stove is anticipated to have a life cycle of two years and there is a plan to replace it with a technologically advanced solar stove. The following cost estimates were made by the finance manager in consultation with the production engineer;

	2019	2020	2021
Planned production & sales output (pieces)		100,000	200,000
	RWF '000'	RWF '000'	RWF '000'
Research & development costs	1,350		
Product design costs	6,500		
Marketing costs	5,000	8,500	10,500
Manufacturing costs:			
Variable costs per piece		148	156
Fixed production costs		5,500	10,800
Distribution costs:			
Variable costs per piece		35	38
Fixed distribution costs		1,010	1,010
Selling costs:			
Variable costs per piece		25	27
Fixed selling costs		1,520	1,520
Administration costs	1,680	4,600	5,600

The finance manager plans to use the full cost plus pricing method to determine the best selling price for a solar powered stove on its entry into the market in the year 2020. The Board during their recent meeting held in November 2018, appreciated senior management's innovativeness and determination for environmental protection. All Board members agreed unanimously to use a mark-up of 15% in determining the penetrating selling price. However, the market feasibility study results show that prices of similar solar stoves range from RWF 204,000 to RWF 250,000 basing on the country of make and selling point. On the other hand, the Board remained convinced that this product will be a cash cow because it will be distributed within SML's existing distribution network.

5. **Operations of plant B**

The manager of plant B has a proposal of entering into another deal of assembling 40 seater bus type of Tati-BP40 after carrying out feasibility on its demand within the EAC region. Though senior management seemed not to welcome the proposal, he is determined to prove them wrong in case the Board approves the proposal. He explained to fellow senior management members that most of the required resources are already in place and little additional costs will be incurred to successfully implement this project. The CEO on contrary indicated that SML is facing resource constraints to which they have no control because it is a global issue.

The performance of plant B for the month of November, 2018 was analysed using variance analysis and the budget was compared with actuals as presented below:

	Budget	Variance
Sales output (cars)	350	77 F
	RWF '000'	RWF '000'
Revenue	2,275,000	491,960 F
Variable costs:		
Direct materials	1,183,000	162,050 A
Other materials	209,300	38,360 A
Direct labour	241,500	65,940 A
Variable overheads	70,000	23,940 A
Contribution	571,200	201,670 F
Fixed costs:		
Fixed overheads	257,580	93,815 A
Net profit	313,620	107,855 F

The above performance excited senior management and suggested to the Board that the manager of plant B and his team be awarded a bonus for this exceptional performance.

Plant B plans to sell 530 Primex-V11 vehicles at RWF 6.89 million each and 30 Tati-BP40 buses at RWF 28.67 million each during the month of January, 2019. Assembling of a Primex-V11 requires 20 hours of direct labour, 1,250 kg of direct material and 300 kg of other material. Assembling of Tati-BP40 buses requires 1,450 kg of direct material and 500 kg of other material. It was discovered that 25 Primex-V11 vehicles will remain unsold during the month of December, 2018. Also 33 Primex-V11 vehicles and 5 Tati-BP40 buses are expected to remain in stock at the end of January, 2019.

Wastages of 8% and 5% are expected to occur of direct materials and other materials respectively for both types of vehicles during the month of January, 2019. The planned stock movement for materials was as follows:

Planned stock as at	Primex-V11		Tati-BP40	
	Direct materials (kg)	Other materials (kg)	Direct materials (kg)	Other materials (kg)
1 January, 2019	10,478	7,025		
1 February, 2019	6,100	3,630	4,637	2,879

It is anticipated that assembling the first Tati-BP40 bus will take 70.95 hours of direct labour and there is an 80% learning curve effect in plant B.

The available labour force can provide 11,550 direct labour hours at an hourly rate of RWF 34,500 and RWF 89,850 while working on Primex-V11 and Tati-BP40 respectively during January, 2019. The suppliers of both direct and other materials agreed to charge the following prices:

	Primex-V11		Tati-BP40	
	Direct materials	Other materials	Direct materials	Other materials
Price per kg (RWF)	2,650	1,950	9,750	6,300

Plant B plans to incur variable overheads of RWF 195,000 on each Primex-V11 and RWF 580,300 on each Tati-BP40 during the month of January, 2019. The budgeted fixed overheads for the month of January, 2019 are worth RWF 445,336,000.

Debt recoveries are expected to be RWF 552,224,500 and always 15% of sales are recovered in the subsequent month. Suppliers of direct and other materials require customers to make prepayments on their accounts and normally SML pays 16% excess in material purchases. Except variable overheads, 20% of both direct labour costs and fixed overheads is paid in the subsequent month and consequently RWF 139,654,500 is expected to remain outstanding by end of December, 2018. Plant B's cash and cash equivalents balance as at 31 December, 2018 is expected to be RWF 14,620,000.

REQUIRED:

(a) Advise SML's Board on whether introduction of RI or ROI will address plant managers' complaints.

(8 Marks)

(b) Recommend to SML's senior management, on the investment proposal between production of lacquered paper bags and pouches to be chosen.

(12 Marks)

(c) Using the graphical method of linear programming, advise SML's senior management on the optimal production plan if the two investment proposals of producing lacquered paper bags and pouches are implemented together.

(7 Marks)

(d) Using the throughput accounting technique, advise SML's senior management on the:

(i) Optimal sales mix of lacquered paper bags and pouches that maximises budgeted net profit for January, 2019.

(4 Marks)

(ii) Maximum budgeted net profit for January, 2019 from production of lacquered paper bags and pouches.8

(3 Marks)

(iii) Whether it is viable to produce pouches during the month of January, 2019.

(4 Marks)

(e) Advise the Board on whether the selling price of the proposed solar powered stove will be competitive on the market during its life cycle.

(10 Marks)

(f) Using flexible budgets, evaluate SML's senior management's suggestion, to the Board, of awarding bonus to the manager of plant B and his team.

(10 Marks)

(g) Assess the expected contribution of plant B to SML's expected cash flows during the month of January 2019.

(22 Marks)

(h) Write a report to the Board:

(i) Discussing how management can apply VBM.

(9 Marks)

(ii) Describing how back-flush costing can address the worries of senior management.

(4 Marks)

(iii) Highlighting the extent to which SML's activities are compliant to its vision, mission and statement of commitment to environmental protection.

(2 Marks)

(iv) Explaining why SML wants to invest heavily in developing its website.

(3 Marks)

(v) Describing the qualitative measures of employees' performance.

(2 Marks)

(Total 100 marks)