CERTIFIED PUBLIC ACCOUNTANT

ADVANCED LEVEL 2 EXAMINATIONS

A2.2: STRATEGIC PERFORMANCE MANAGEMENT

DATE: THURSDAY,27 APRIL 2023

MARKING GUIDE AND MODEL ANSWERS

SECTION A

QUESTION ONE

	Marking guide	Allocated Marks
a	Working inventory	2
	Working Depreciation	1
	Working Finance cost	1
	Working borrowings and overdraft	1
	Ratio calculation	10
	Interpretation of ratios, including 1 Professional mark of report format	10
	Maximum	**25**
b	Discuss areas of improvement	5
c	(i) Business Process Re-engineering	6
	(ii) Impact of BPR, 1 Mark for a well explained impact, max 4 Marks	4
	(iii) Evaluation of current structure	2
	Role of the Board of Directors, 1 Mark for a well explained role, max 8 Marks	8
	Total Marks	50

Model Answers

a) The question required the candidate to analyse the financial performance of two companies against themselves and then against the industry average. Some of the accounting policies of both companies are a bit different and different from those of an industry. The candidate in this particular question was required to first adjust the given financial statements to have them comparable. As comparing companies with differing accounting policies and basis of financial statements preparation may be misleading. Inventory costs should be adjusted through the cost of sales, the depreciation expenses should also be adjusted, finance costs and borrowings need also to be adjusted.

1. Inventory adjustments through cost of sales

	RIC Ltd	5GCC Ltd
	FRW'(000)	FRW'(000)
Cost of sales	7,249,691	11,456,810
Less opening stock-LIFO	0	(284,300)
Add Opening Stock-FIFO	0	245,200
Add back Closing Stock-LIFO	0	736,800
Less closing stock-FIFO	0	(811,100)
Adjusted Cost of sales	**7,249,691**	**11,343,410**

2. Adjustments of finance costs

Included in the RIC Ltd borrowings is the loan facility amounting to FRW 950 million which was acquired before the year end specifically for construction of a branch in Musanze. This branch is expected to start its operations in mid-2023. Its related finance costs amounting to 85million has been accurately calculated and included in the finance costs. The finance costs related to 2023 but incurred during the year ended 2022 should be removed from the finance costs figure and from trade and other payables as the branch will start operating in mid-2023. To compare both companies we should ensure we match expenses, revenues in their related period.

	Balance as 31.12.2022	**Adjustments**	**Adjusted Balance**
	FRW (000)	**FRW (000)**	**FRW (000)**
Finance costs	89,700	(85,000)	4,700
Trade and other payables	126,400	(85,000)	41,400

3. It is 5GCC Ltd policy to treat the overdraft facility above 15% of the total long-term liabilities as a 100% non-current liability. The 15% of borrowings of 5GCC Ltd is FRW387,360 (FRW2,582,400*15%) which is below of the existing overdraft facility of FRW558,500. The overdraft should be reclassified and be added to long-term borrowing as the existing company policy.

	5GCC Ltd
	FRW (000)
Borrowings-FRW	2,582,400
Overdraft-FRW	558,500
Adjusted Borrowings-FRW	**3,140,900**

4. The differing depreciation methods should be adjusted to same depreciation method to allow the users of the financial information to compare the two companies and compare them with the industry average. This will be adjusted from the operating expenses and non-current assets as well.

	RIC Ltd	**5GCC Ltd**
	FRW (000)	**FRW (000)**
Operating expenses	9,424,000	11,564,892
Less Depreciation SLM	(3,750,000)	(4,050,000)
Add: Depreciation RBM	2,250,000	4,590,000
Adjusted Operating expenses	7,924,000	12,104,892

Revised financial statements

Revised Statement of Profit or Loss for RIC Ltd and 5GCC Ltd for the year ended 31st December 2022.

Accounts description	Note	RIC Ltd	5GCC Ltd
		FRW (000)	FRW (000)
Revenues		22,154,640	33,987,520
Cost of sales	1	7,249,691	11,343,410
Gross Profit		**14,904,949**	**22,644,110**
Operating expenses			
Operating Expenses	4	7,924,000	12,104,892
Administrative Expenses		145,825	214,780
Selling and distribution Expenses		213,654	380,000
Finance Costs	2	4,700	15,120
Total Expenses		**8,288,179**	**12,714,792**
Profit before tax		**6,616,770**	**9,929,318**
Taxation (30%)		1,985,031	2,978,795
Profit after tax		**4,631,739**	**6,950,523**

Revised Statement of financial position as at 31.12.2022

Accounts description	RIC Ltd	5GCC Ltd
	FRW (000)	FRW (000)
Non-Current Assets		
Property Plant & Equipment	9,000,000	18,360,000
Intangible Assets	794,000	-
Total Non-Current Assets	**9,794,000**	**18,360,000**
Current Assets		
Inventory	486,000	811,100
Accounts Receivable	189,650	105,800
Prepayments	36,121	77,980
Cash and Cash equivalent	254,000	89,400
Total current Assets	**965,771**	**1,084,280**
Total Assets	**10,759,771**	**19,444,280**
Non-Current Liabilities		
Borrowings	1,801,900	3,140,900
Current Liabilities		
Trade and other payables	41,400	103,910
Overdraft	11,200	-
Total Current Liabilities	**52,600**	**103,910**
Total Liabilities	**1,854,500**	**3,244,810**
Net Assets	**8,905,271**	**16,199,470**
Financed by:		
Share Capital	5,000,000	11,000,000
Reserves	975,400	1,798,800
Retained Earnings	2,929,871	3,400,670
Owners' Equity	**8,905,271**	**16,199,470**

Report

To: Department head

From: Management consultant

Date: 22 November 20X5

Subject: Financial performance analysis of RIC Ltd and 5GCC Ltd

Current ratio: The current ratio is one of the measures of company's liquidity management. It appears that RIC Ltd has 18:1 and 5GCC Ltd 10:1. Even though both companies have high current ratios, it is clear that at least 5GCC Ltd manages its liquidity well compared to RIC Ltd. The industry averages' current ratio is 2:1 which is also the standard current ratio. It appears that both RIC Ltd and 5GCC Ltd are not efficient in using available current assets. This has been caused by high level of inventories, accounts receivables and cash kept by both company against low level of trade payables. The excessive current ratio shows idleness of current assets.

Return on Capital employed: This ratio measures how well the company is using its capital employed to generate profits. When you look at both companies' ROCE, it appears that RIC Ltd used its capital employed to generate profit more efficiently than 5GCC Ltd with 56% and 51% respectively. When it comes to the industry comparison, it is very clear that still RIC Ltd used its assets more efficiently to generate profits beyond the industry average of 45% while 5GCC Ltd performed above the industry average However, it is below RIC Ltd.'s performance.

Accounts receivable days: This ratio shows how long it takes a company to collect debts from credit sellers, the shorter the better. It appears that 5GCC Ltd is doing very well to shortly collect debts within 11 days than RIC Ltd with 31 days. On the other hand, when it is monitored and managed efficiently the shorter accounts receivable days may lead to the reduction of customers due to much pressure put upon them in debts collection. The industry average is 35 days, it appears that both companies are efficiently collecting debts in a shorter time than the industry average, and they have to keep that momentum. Both companies should be careful and review their credit policy as it may wipe their customer base.

Accounts payable days: This ratio shows how long it takes a company to pay debts due to its suppliers, the longer the better. It appears that 5GCC Ltd has a longer period to pay off its dues to suppliers in 41 days compared to RIC Ltd with 30 days. This shows that 5GCC Ltd is performing well in this perspective, but the company should be careful as when it continues to delay payments to suppliers it may end up losing its loyal suppliers after they have lost their trust. When you compare this to the industry average, it appears that RIC Ltd has the same payable days as the industry but for 5GCC Ltd, it delays payment more than the industry average. Maximum attention should be taken to ensure that the company does not lose trust from its loyal suppliers.

Debt ratio: This ratio shows the composition of debts in a company's capital structure. RIC Ltd has debt ratio of 17% and 5GCC Ltd has debt ratio of 16% which are slightly below the industry average of 20%. The adequacy of the debt ratio depends on several factors including company's shareholders and their attitude to risks, tax laws, cost of capital, size of the company and its reputation among many others.

Appendices:

SN	**Ratio type**	**Calculation**	
		RIC Ltd	**5GCC Ltd**
1	Current ratio	965,771/52,600	1,084,280/103,910
2	ROCE	6,621,470/(10,759,771-52,600)	9,944,438/(19,444,280-103,910)
3	Accounts receivable days	(189,650/0.1*22,154,640) *360	(105,800/0.1*33,987,520) *360
4	Accounts payable days	(41,400/500,000) *360	(103,910/920,000) *360
5	Debt ratio	((1,801,900/(1,801,900+8,905,271))	((3,140,900/(3,140,900+16,199,470))

SN	**Ratio type**	**Formula**	**Ratio**	
			RIC Ltd	**5GCC Ltd**
1	Current ratio	Current Assets/Current Liabilities	18	10
2	ROCE	PBIT/Capital Employed	62%	51%
3	Accounts receivable days	(Accounts receivable/Credit Sales) *360	31	11
4	Accounts payable days	(Accounts payable/Credit purchases) *360	30	41
5	Debt ratio	Debts/(Debts + Equity)*100	17%	16%

b) **Discuss key areas, with recommendations, that the management of RIC Ltd and 5GCC Ltd need to address to improve performance**

SN	Key area of concern	Recommendation
1	Liquidity management	It appears that both companies have issues in liquidity management when you look at their current ratios, as they both have idle resources. Management should assess potential short-term investments and ensure they remain within acceptable levels of cash in their respective companies.
2	Credit policy	The companies' current credit policy should be reviewed, like for accounts receivable days, it is clear that both companies are below the industry average. The review should therefore be undertaken for them to avoid putting much pressure and other strong measures in debt collection as it may jeopardize their relationship with customers. Accounts payable days should also be reviewed to avoid any excessive delay in paying suppliers.
3	Revenues and pricing policy	Due to continuous reduction in demand, it pushed both companies to reduce products' prices up to 5%. This reduced the overall total revenues as well as profits. As a result, both companies should look for cheaper but quality suppliers for them to be compensated on the reduced prices.
4	Cost management	It appears operating costs are higher than the cost of sales. Operating costs is about 95% of total expenses for both companies. Management should investigate and check whether it would be possible to cut off some operating expenses and ensure efficiency.
5	Inventory management	It appears that both companies have large inventories. They should assess if they can use the JIT system to avoid inventory related costs.

c) 5GCC Ltd business processes and corporate governance

i. **Critically analyse the current 5GCC Ltd business processes and discuss how the introduction of BPR can help them to improve performance**

Business process re-engineering involves focusing attention inwards to consider how business processes can be redesigned or re-engineered to improve efficiency. It can lead to fundamental changes in the way an organization function. Business Process Re-engineering (BPR) is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed. BPR would help 5GCC Ltd to improve the company's performance in the following ways:

1. **Staff responsibilities redesign:** 5GCC Ltd has around 400 employees among them 300 employees are machine operators while the remaining 100 employees are office staff. This is a huge number of employees given the size of the company. 30 technicians operating maintenance of 10 machines is too excessive, it means each machine is operated by 3 technicians which is not efficient. By adopting the BPR it will minimize cost of labour and efficient allocation of available resources.

2. **Inventory management system:** The current inventory system of keeping more stock is costly in terms of electricity, water, security, hygiene, rental costs, and material obsolescence. When the company adopts BPR, it will help them to set costless or low costs of inventory management system like Just In Time (JIT). This will help them to minimize the costs of maintaining inventory.

3. **Setting information system:** Currently 5GCC Ltd has different information systems like accounting information system, inventory monitoring system, human resource management system, with each system working independently. The company has no system in place to handle customer complaints as anyone who has a complaint has to come in person to the office and express his/her issue. By adopting BPR, this would help 5GCC to set up an effective integrated system which will help them to manage different data like accounting data, inventory data, employee's data efficiently. This would also reduce staff costs such as those related to employees' attendances records, accounting staff etc.

4. **Decentralized decision making**: The current practice in 5GCC Ltd requires any decision to be taken in the management meeting which occurs once in a trimester. Once the BPR is introduced, it will help the company to set up a decentralized management system whereby decisions will be in hands of the operational staff. This reduces the delays and bureaucratic decision-making processes which also hinder production efficiency.

5. **Customer relationship management**: The current practice requires 5GCC staff to conduct door to door marketing activities and also customers' complaints are managed at 5GCC premises. Introducing BPR will help the company to set a Customer Relationship Management (CRM) system). This will help to timely handle customer orders and complaints.

ii. **Briefly discuss how BPR would affect the existing systems at 5GCC Ltd**

Introducing Business Process Re-engineering will help 5GCC Ltd to redesign its processes and systems. The BPR will affect the following current systems:

1. **Performance measurement:** By adopting BPR management model, it requires that all performance measures must be built around processes not departments: this may affect the current design of responsibility centres in place.

2. **Reporting:** By adopting the Business Process Re-engineering, almost all reporting systems will change. By introducing computerized systems in all functions will ease the reporting process and management of data. There should be a need to identify where value addition may be attained.

3. **Activity:** By adopting the Business Process Re-engineering, 5GCC Ltd would change from traditional costing and budgeting systems to an Activity Based Costing (ABC) system which could be used to model business processes.

4. **Structure:** The complexity of the reporting system will depend on 5GCC structure. Arguably, the reports will be designed around the process teams, in case there are independent process teams after the introduction of the Business Process Re-engineering.

5. **Variance:** By redesigning the production processes and requirements, new variances can be developed.

iii. **Critically evaluate the current organizational structure of 5GCC Ltd and advise on how it can be improved**

Normally, the organizational structure of any company as per the best practice of corporate governance should be constructed as follows:

The current 5GCC Ltd organizational structure has some weaknesses such as not having an operational board of directors (BoD).

Board structures and procedures vary both within and among countries. Some countries have two-tier boards that separate the supervisory function and the management function into different bodies. Such systems typically have a "supervisory board" composed of non-executive board members and a "management board" composed entirely of executives. Other countries have "unitary" boards, which bring together executives and non-executive board members. In some countries there is also an additional statutory body for audit purposes. The principles are intended to apply to whatever board structure is charged with the functions of governing the enterprise and monitoring management. Absence of this organ would lead 5GCC Ltd to miss out on many roles that would be performed by the BoD including:

1. Board members should act on a fully informed basis, in good faith, with due diligence and care, and in the best interest of 5GCC and its shareholders.

2. Reviewing and guiding corporate strategy, major plans of action, risk management policies and procedures, annual budgets and business plans; setting performance objectives; monitoring implementation and corporate performance; and overseeing major capital expenditures, acquisitions and divestitures, etc.

3. Monitoring the effectiveness of the company's governance practices and making changes as needed

4. Selecting, compensating, monitoring and, when necessary, replacing key executives and overseeing succession planning: In most two-tier board systems the supervisory board is also responsible for appointing the management board which will normally comprise of key executives

5. Aligning key executive and board remuneration with the longer-term interests of the company and its shareholders

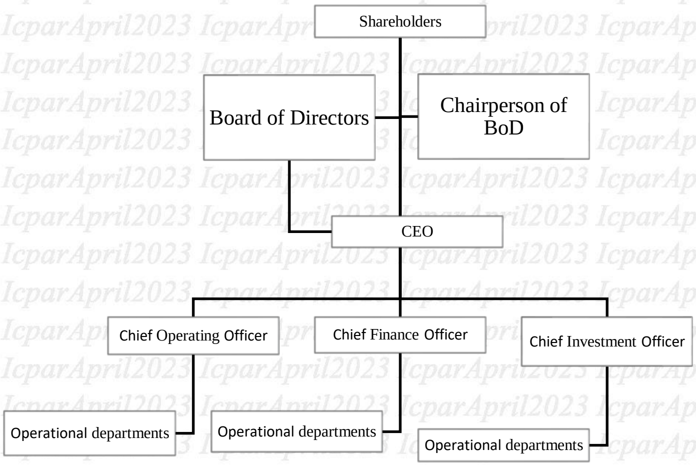
6. Ensuring a formal and transparent board nomination and election process

7. Monitoring and managing potential conflicts of interest of management, board members and shareholders, including misuse of corporate assets and abuse in related party transactions.

8. Ensuring the integrity of the corporation's accounting and financial reporting systems, including the independent audit, and that appropriate systems of control are in place, in particular, systems for risk management, financial and operational control, and compliance with the law and relevant standards. Companies are also well advised to establish and ensure the effectiveness of internal controls, ethics, and compliance programmes or measures to comply with applicable laws, regulations, and standards, including statutes criminalizing the bribery of foreign public officials.

9. Overseeing the process of disclosure and communications: The functions and responsibilities of the board and management with respect to disclosure and communication need to be clearly established by the board. In some jurisdictions, the appointment of an investment relations officer who reports directly to the board is considered good practice for large listed companies.

The following is the possible ideal organizational structure with the role of BoD being considered.



Therefore, the absence of the organ of board of directors would hinder the performance of many activities in corporate governance perspectives. 5GCC Ltd should ensure the organ is set and made operational.

SECTION B

QUESTION TWO

Marking Guide

QN	Description	Allocated Marks	Total Marks
a	Identification of current Transfer pricing method	2	25
	Discussion of negotiated transfer pricing method	9	
b	Implementation of VBM	3.5	
b	Pitfall of VBM	3.5	
	Format, professional mark	1	
c	Effect of external purchase	4	
d	Distinction of economic and managerial performance measure	2	

Model Answers

a) Based on the idea of the Chief Finance Officer, discuss the transfer pricing method to be adopted at Kigali Foods Ltd to resolve the existing transfer prices issues among the two divisions

Currently, Kigali Foods Ltd is adopting the market based or full costs-plus pricing methods in its divisions. Market based transfer pricing method involves using the external market prices of similar products to charge the sister division in Kigali Foods Ltd, while a full cost plus transfer pricing method involves charging the Grinding division after considerring all production costs of the Planting division and then adding a given predetermined percentage of a mark up.

Considerring both transfer pricing methods and the provided transfer prices data, it is very clear that inter divisional prices are very high, sometimes higher than that of the external market. Since divisional managers have autonomy to outsource inputs from any market, this would lead to goal incongruence if the divisional transfer prices are not monitored with caution. These divisional issues would be resolved by shifting from setting divisional transfer prices based on a full cost plus method to a negotiated transfer pricing method.

In this case it is likely that transfer prices will be set by means of negotiation. The agreed price may be finalised from a mixture of accounting arithmetic, politics and compromise. The process of negotiation will be improved if adequate information about each division's costs and revenues are made available to the other division involved in the negotiation. By having a free flow of cost and revenue information, it will be easier for divisional managers to identify opportunities for improving profits, to the benefit of both divisions involved in the transfer. A negotiating system that might enable goal congruent plans to be agreed between profit centres is as follows.

1. Both divisions will submit plans for output and sales to head office, as a preliminary step in preparing the annual budget,
2. Head office reviews these plans, together with any other information it may obtain. Amendments to divisional plans might be discussed with the divisional managers,
3. Once divisional plans are acceptable to head office and consistent with each other, head office might let the divisional managers arrange budgeted transfers and transfer prices.
4. Where divisional plans are inconsistent with each other, head office might try to establish a plan that would maximize the profits of the company as a whole. Divisional managers would then be asked to negotiate budgeted transfers and transfer prices on this basis.
5. If divisional managers fail to agree a transfer price between themselves, a head office 'arbitration' manager or team would be referred to for an opinion or a decision.
6. Divisions finalize their budgets within the framework of agreed transfer prices and resource constraints.
7. Head office monitors the profit performance of each division.

By adopting a negotiated transfer pricing method, this will eliminate the potential risk of intra divisioanal high prices and hence leading towards goal congruence.

b) As the head of operations, write a report to CEO, briefly discussing the implementation and pitfalls of adopting a Value Based Management approach in Kigali Foods Ltd.

From: XXXXX

To: CEO

Date: 01/01/2022

Re: Implementation and pitfalls of adopting a Value Based Management Approach in Kigali Foods Ltd

Value-based management (VBM) starts with the philosophy that the value of a company is measured by its discounted future cash flows. Value is created only when companies invest capital at returns that exceed the cost of that capital. VBM extends this philosophy by focusing on how companies use the idea of value creation to make both major strategic and everyday operating decisions.To implement VBM business model, Kigali Foods Ltd will need to pay much attention on the following aspects:

Performance measures: Kigali Foods Ltd usually uses traditional financial performance measures, such as earnings or earnings growth which do not focus enough on value creation. The adoption of VBM will then require Kigali Foods Ltd to move from that traditional financial performance measures hence improving value creation. This will also help them to set goals in terms of discounted cash flow value, the most direct measure of value creation. These targets can then be cascaded down the organisation as shorter-term, more objective financial performance targets. However, non-financial goals such as customer satisfaction, product innovation, and employee satisfaction are also important as these inspire and guide the entire organisation.

Linking performance measurements to the company's value creation: Kigali Foods Ltd's planning, target setting, performance measurement, and incentive systems need to be linked to value creation at the different levels of the organisation. Management processes and systems encourage managers and employees to behave in a way that maximises the value of the organisation.

Employees' responsibilities' redesigning: Management processes and systems

encourage managers and employees to behave in a way that maximises the value of the organisation. For the head of a business unit, the objective may be stated as value creation measured in financial terms. Functional manager's goals could be expressed in terms of customer service. The manufacturing manager might focus on operational measures such as cost per unit, cycle time, or defect rate.

There are four essential management processes that collectively govern the adoption of VBM. These four processes are linked across the company at the corporate, business unit, and functional levels. The four processes which run in order are expressed as below:

1. A company or business unit develops a strategy to maximise value
2. This strategy translates into short- and long-term performance targets defined in terms of the key value drivers
3. Action plans and budgets are drawn up to define the steps that will be taken over the next year or so to achieve these targets
4. Finally, performance measurement and incentive systems are set up to monitor performance against targets and to encourage employees to meet their goals

The pitfalls of adopting a Value Based Management approach in Kigali Foods Ltd.

VBM approach is based on an evaluation of different options and selecting some, which can contribute to the wealth of shareholders. However, there is no such a thing as a perfect valuation model. Every valuation will have its advantages and disadvantages.

If a Kigali Foods Ltd has not adopted a VBM approach, it may find it difficult to adopt the approach later. This is mainly because a VBM approach requires a cultural change within the company. Similarly, implementing VBM at a large scale can be time-consuming for companies. Furthermore, while value creation may sound straightforward, it requires companies to synchronize their strategic and operational activities to obtain the best results.

While VBM may be a useful approach for the benefits it provides to companies, it may often come at a cost for these companies. Kigali Foods Ltd has to measure the value created by different processes using different tools such as a balanced scorecard. The more the company goes into details with these tools, the more accurate results it will get. However, to achieve more accurate results, companies may have to do a significant amount of research.

Similarly, Kigali Foods Ltd must understand how the process of value creation works and what goes into the process. If the company takes any irrelevant information, it may end up destructing value rather than creating it. This may also require the company to have knowledgeable and skillful top-level management.

Finally, as Kigali Foods Ltd does not have any prior experience with a VBM approach, it will need to train its management and employees. This may further add to the costs of the company related to adopting a VBM approach.

Kigali Foods Ltd should perform a situational and organizational analysis to ensure the implementation of VBM is achieving intended objectives when implemented, considerring the above pitfalls.

c) Discuss the potential effects which may arise when the Grinding division opts to sources its inputs from an external market including a foreign market

The manager of the Grinding division may opt to transact with external stakeholders including foreign suppliers instead of buying the raw materials from its sister division. This can lead to the following impact:

1. **Political and Geographical risks:** Purchasing inputs from abroad may not be reliable as international supplies are subject to several uncertainties including geographical and political risks. If this happens, it may hinder the production process due to stockouts, which in the end can lead to delayed customers' orders.

2. **Potentially poor-quality materials**: Kigali foods Ltd might not have quality assurance from external suppliers like that it would have achieved from in-house purchasing whereby quality control would be assured from the first production process to the end.

3. **Exchange rate risks**: International trade involves using different currencies. Therefore, involving in international trade may lead to adverse exchange rate risks, which in turn can affect the Grinding division cost of production and that of Kigali Foods Ltd as well.

4. **Inflexibility in credit terms**: Local suppliers can be flexible compared to the international supplier.

5. **Goal incongruence**: Divisions of Kigali Foods Ltd could enjoy the company's economies of scale and minimize production costs and hence increase the company's competitiveness on the market. When this is not applied, divisions may end up acting like competitors which in turn may benefit their individual divisions but to the expense of the whole Kigali Foods Ltd, as a company.

d) Briefly discuss the distinction between economic and managerial performance evaluation in the context of Kigali Foods Ltd.

Economic performance evaluation refers to the use of economic measures such as Return on Investment, Residual Income, Economic Value Added as a basis to measure the performance of a given division or organization while,

Managerial Performance Evaluation refers to the use of other factors that determine the performnace of divisional managers such as days absent, professional qualifications obtained, personability, divisional improvement from loss making to profit making division etc. to measure the manager's performance.

QUESTION THREE

Marking guide

Question Number	**Description**	**Allocated Marks**	**Total Marks**
a	Identification of current budgetary system	2	25
	Disadvantages of Incremental budgeting	5	
	Definition (1 Mark) and Advantages of Zero-Based Budgeting	5	
b	Advantages of Time series forecasting	2.5	
	Disadvantages of Time series forecasting	2.5	
c	Material mix calculation, correct comment 1 mark	4	
	Material yield calculation, correct comment 1 mark	4	

Model Answers

a) Critically evaluate the current SITU's budgetary system and advise how the implementation of Zero-Based Budgeting system would improve the university's budget performance

Budget items	**Quarter 1 Budget**	**Quarter 2 Budget**	
	FRW'000	**FRW'000**	**% Increment**
Revenues			
Tuition fees	520,000	551,200	1.06
Training fees	15,000	15,900	1.06
Grants	820,000	869,200	1.06
Total	**1,355,000**	**1,436,300**	1.06
Expenditures			
Publication fees	9,805	10,393	1.06
Data Collection costs	21,100	22,366	1.06

Budget items	Quarter 1 Budget	Quarter 2 Budget	
	FRW'000	FRW'000	% Increment
Data Analysis costs	56,790	60,197	1.06
Salaries	1,124,321	1,191,780	1.06
Repairs and maintenance	80,500	85,330	1.06
Travel expenses	61,500	65,190	1.06
Total expenditures	**1,354,016**	**1,435,257**	1.06
Net Revenues/(Costs)	**984**	**1,043**	1.06

Critically evaluate the current SITU's budgetary system

Referring to the two quarters' budget, it is clear that quarter two is more than the quarter one's budget by 6% which may be a result of the inflation rate. This implies that the current budgetary system is an incremental budgetary system. This budgetary system has some disadvantages as described below:

1. Incremental budgeting is a reasonable procedure if current operations are as effective, efficient and economical as they can be. It is also appropriate for budgeting for costs such as staff salaries, which may be estimated on the basis of current salaries plus an increment for inflation and are hence administratively fairly easy to prepare. For other items, using incremental budgeting may cause some budgetary performance problems.

2. **Promotes unnecessary spending**: Because it bases on the previous budget; it does not care whether the previous budget was over budgeted. For SITU, it is clear that all revenues were budgeted for modestly but in the next quarter, nothing changed except adding a 6% instead of reducing it.

3. **Discourages innovation and creativity in SITU:** Basing on the previous budget discourages innovation as this budgetary system does not offer room to the budget committee to think beyond the previous period budget. It does not consider that SITU lives in a highly changing environment.

4. **Fails to account for changes and external factors:** The key assumption behind incremental budgets is the constant stability of the company's operations. Therefore, budgets are typically not responsive to potential changes that can result from unforeseen circumstances or some un anticipated factors.

5. **It does not consider variance analysis:** Incremental budgetary system does not consider the variance analysis to be a basis of preparing the next period budget, rather it tends to inflate the amounts without taking into consideration slacks or surplus that were previously budgeted for.

All these problems should be addressed by the adoption of Zero-based budgeting (ZBB) system. ZBB, in theory, rejects the assumption inherent in incremental budgeting; that this year's activities will continue at the same level or volume next year, and that next year's budget can be based on this year's costs plus an extra amount, perhaps for expansion and inflation.

Zero based budgeting involves preparing a budget for each cost centre from a zero base. Every item of expenditure has then to be justified in its entirety in order to be included in the next year's budget.

Implementing zero based budgeting, there is a three-step approach:

1. **Define decision units:** Define decision packages, comprehensive descriptions of specific SITU's activities which management can use to evaluate the activities and rank them in order of priority against other activities.

2. **Evaluate and rank packages**: Evaluate and rank each activity (decision package) on the basis of its benefit to SITU.

3. **Allocate resources**: Allocate resources in the budget according to the funds available and the evaluation and ranking of the competing packages.

Implementation of ZBB has the following benefits to SITU:

1. **It is possible to identify and remove inefficient or obsolete operations:** As ZBB starts it budget process from zero, it helps to budget for only efficient operations, hence leaving out the inefficient operations from the previous periods' budgets.

2. **It forces employees to avoid wasteful expenditure:** Wasteful expenditures that were may be previously budgeted for are automatically removed from the current budget, hence improving company's performance.

3. **It can increase innovation:** When employees know what they can think can be incorporated in the budget, this increases their motivation and morale of thinking beyond the previous budget.

4. **It responds to changes in the business environment**: The current world is highly changeing in all corners, including technological advancements, environmental changes, etc., adopting a ZBB would help SITU to adopt to any changes that may occur and their respective budget can be easily incorporated in the company's budget, hence flexibility.

b) Advantages and disadvantages of using time series as a forecasting technique

A time series forecasting is the forecasting process, whereby a series of figures or values recorded over time are used to predict future variables.

Time series has the following components:

1. Trend
2. Seasonal variations or fluctuations
3. Cycles, or cyclical variations
4. Non-recurring, random variations

The following are the advantages of forecasting using time series

1. Time Series Analysis helps you identify patterns, which helps in planning and other models development like, sales-advertisement models, etc
2. Time series involves predicting future pattern using previous periods' data which can be reliable
3. Time Series Forecasting can predict the future: Time series usually help the company to predict future patterns

The following are the disadvantages of forecasting using time series

- All forecasts are subject to error, but the likely errors vary from case to case,
- The further into the future the forecast is for, the more unreliable it is likely to be,
- The less data available on which to base the forecast, the less reliable the forecast,
- The historic pattern of trend and seasonal variations may not continue into the future, hence the unreliablity of future forecasts,
- Random variations may upset the pattern of trend and seasonal variation,
- Extrapolation of the trend line is done by judgment and can introduce errors,
- There are a number of changes that also may make it difficult to forecast future events.
- Forecasting using time series does not consider the environmental changes, technological advances, legal changes, social changes which may occur between the periods.

c) Variance calculations

Material mix variance calculation

Total kilograms of materials per standard batch of lotion:

Ingredients	Kilograms
Mango butter	0.2
hazelnut oil	0.4
Seed Oil	0.35
Total material per standard batch	**0.95**

Therefore, standard quantity to produce the actual quantity produced will be given by: 152, 000 batched* 0.95 kg = 144,400 Kg

Actually, 152,000 batches of lotion have been processed using:

Ingredients	**Kg**
Mango butter	35,010
Hazelnut oil	60,180
Seed Oil	43,100
Total	**138,290**

Material/ Ingredients	**AQSM**	**AQAM (kg)**	**Variance (kg)**	**Standard cost per Kg**	**Variance in FRW**
Mango butter	138,290*0.2/0.95=29,114	35,010	(5,896)	20	117,920 A
hazelnut oil	138,290*0.4/0.95=58,227	60,180	(1,953)	8	15,624A
Seed Oil	138,290*0.35/0.95=50,949	43,100	7,849	6	47,094F
Total	**138,290**	**138,290**	**-**		**86,450A**

Note:

AQSM: Actual Quantity at Standard Mix

AQSM: Actual Quantity at Standard Mix

Material yield variance

Material/Ingredients	**SQSM**	**AQSM (kg)**	**Variance (kg)**	**Standard cost per Kg**	**Variance in FRW**
Mango butter	152,000*0.2=30,400	29,114	1,286	20	25,720F
hazelnut oil	152,000*0.4=60,800	58,227	2,573	8	20,584F
Seed Oil	152,000*0.35=53,200	50,949	2,251	6	13,506F
Total	**144,400**	**138,290**	**6,110**		**59,810F**

SQSM: Standard Quantity at Standard Mix

AQSM: Actual Quantity at Standard Mix

Comments:

A materials mix variance will occur when the actual mix of materials used in production is different from the standard mix. So, it is inputs which are being considered. Since the total mix variance is adverse for the Just More Than Beauty Co, this means that the actual mix used July 2022 was more expensive than the standard mix.

A material yield variance arises because the output which was achieved is different from the output which would have been expected from the inputs. So, whereas the mix variance focuses on inputs, the yield variance focuses on outputs. In July 2022, the yield variance was favourable, meaning that the inputs produced a higher level of output than one would have expected.

QUESTION FOUR

Marking guide

Question Number	Description	Allocated Marks	Total Marks
a	Predetermined Overhead rate	2	25
	Unit cost price-Traditional method	3	
b	Overheads rates	3	
	Overheads cost per unit	4	
	Unit cost price-ABC method	2	
c	ABC in government entities	3	
d	Advantages of profit sharing	4	
	Disadvantages of profit sharing	4	

Model Answers

a) Predetermined overhead rate under the current method

	Product X	Product Y	Total-Direct labour hours
Quantity	800 units	2,400 units	
Direct labour hours per unit	1.4hrs	2.4 hrs	
Total direct labour hours	**1,120**	**5,760**	**6,880**

Overhead absorption rate: Total overhead costs/total direct labor hours

Overhead absorption rate: FRW 261,780/6,880 Direct labor hours=FRW 38.05/direct labor hour

Determine the unit product cost of each product

	Product X-FRW	**Product Y-FRW**
Direct material	21.4	33.4
Direct labour	22.4	38.4
Overheads*	53.3	91.3
Total unit price	**97.1**	**163.1**

Overhead*

Product x: 1.4 dlh*38.05=FRW 53.3

Product y: 2.4 dlh*38.05=FRW 91.3

b) Compute the unit product cost of Product X and Product Y using Activity Based Costing System
Computation of activity rates:

Activity Cost Pool	O/H Costs	Activity	Activity rates
Purchase Orders	183,040	4,160 orders	44 per order
Machine setups	27,140	460 set ups	59 per set up
General Factory	51,600	3,440 labour hours	15 per labour hour

The total amount of manufacturing overhead cost that would be applied to each product using the activity-based costing system

Activities	**Activity rates**	**Product X**		**Product Y**	
		Estimated activity	**Amount-FRW**	**Estimated activity**	**Amount-FRW**
Purchase orders	44	1,620	71,280	2,540	111,760
Machine set ups	59	200	11,800	260	15,340
General factory	15	560	8,400	2,880	43,200
			91,480		**170,300**
Number of units			800		2,400
Overhead cost per unit			**114.35**		**70.96**

Unit product cost using ABC system

	Product X (FRW)	**Product Y (FRW)**
Direct material	21.4	33.4
Direct labour	22.4	38.4
Overheads	114.35	70.96
Total unit price	**158.15**	**142.76**

c) How the ABC system could help organizations like Pismelo Company to identify, allocate and control costs and potential challenges it may face

As can be seen in the scenario, it is clear that Pismelo Company is a wholly government owned company. Many governments have put the public sector under increasing pressure to deliver more services, for less money, and with greater transparency. Public sector organizations thus need to identify, allocate and control costs more than ever before. ABC is seen as one possible tool to help with this:

Reasons to introduce ABC system in government company like Pismelo Company:

1. **Public responsibility:** responsible public organizations must have tight control of running costs at a time when resources provided by central government are strictly limited.

2. **Public accountability:** many organizations are being challenged as to whether or not they spend taxpayer's money wisely and feel a need to demonstrate this when the questions are asked.

3. **Resource allocation within organizations**: there have been concerns in many organizations as to whether the services provided had an equitable distribution of scarce resource or whether those who shouted the loudest got the most resources.

4. **Helping managers to manage:** managers need a better awareness of what activities actually cost, before they can think of which ones to cut.

Challenges that introduction of ABC in government set up may face

Resistance: Many public sector organizations have resisted the introduction of ABC. To measure the cost of a service and take into account resource costs, the resource used must be measured which often means recording time spent. Timesheets allow accountability for what people are actually doing, and for this cost then to be allocated to services. This is a challenge for the public sector, and for those that wish to use ABC or take a similar approach, a culture change is definitely required.

d) Advantages and disadvantages of giving the workers a profit-sharing bonus instead of a wage increase

Advantages of giving workers a profit-sharing bonus instead of a wage increase

Increase employee loyalty: Employees with profit-share options connect with their employers in a different way than those who earn regular salaries. If you offer this incentive, you directly link employees to the success of your company on a financial level if they help you make a profit, they earn a reward. Acknowledging the importance of the work they do by giving a tangible benefit may increase their loyalty to your company and their levels of job satisfaction.

Lower recruitment and salary costs: Adding profit sharing to your benefits package could help you improve employee retention rates, saving money on recruitment and training. Apart from keeping people happier in their roles, the extra money may dissuade them from looking for other jobs. You can also use profit sharing to your advantage if you want to retain key people but cannot or do not want to increase their base salaries. Provided your company does well, you can offer the incentive of additional earnings without committing to increasing their salaries.

Improve efficiency and productivity: Sharing a proportion of profits among all your employees may have a positive effect on their efficiency, their motivation and their productivity. Employees without a stake in results may be contented to do their jobs at a minimum level of efficiency. Adding a profit share to the mix and employees have a vested interest in the success of the company. They have a financial stake in business performance and may be more motivated to work towards your business goals, thereby boosting profits.

Disadvantages of giving workers a profit-sharing bonus instead of a wage increase

Negative focus on profits: If employees focus solely on profits, your business may suffer. This may be a problem if they work towards making the greatest profit at the expense of other key business drivers such as quality. For example, if your sales teams solely push products with the highest profit margins, rather than focusing on what is best for the customer, you could lose repeat business and your market reputation might suffer

Issues with entitlement and inequality: Once employees receive profit shares, they may feel entitled to earning the extra money. If you don't make profits in a period, they may become unmotivated. Over time, you may also lose productivity gains, as employees may not maintain initial motivation once the novelty of the system wears off. You may also have problems with perceptions of inequality. For example, a hard-working employee may be resentful of others if he feels that they work less hard but receive the same share of profits. If you use scaled profit sharing, some employees may feel undervalued or may perceive the system as being unfairly weighted.

Additional profit-sharing costs: Setting up a profit-sharing program may not bring significant upfront costs, but you must still factor in long-term time, labour and administrative costs. Committing to giving away a share of your profits also reduces your disposable investment income. This may be an issue if you want to reinvest profits into your business, as you'll have less money with which to do so. Also, if your company has a lean period, you can't hide this fact from your employees. You've made them focus on profits, so they are more likely to notice if things aren't going well. This could unsettle and demotivate them and, in extreme cases, encourage them to look for other jobs

END OF MARKING GUIDE AND MODEL ANSWERS