SCHOOL OF BUSINESS & ECONOMICS

BAF 3105: Performance Measurement and Control

DIGITAL LEARNING CAT 1 & 2

DEPARTMENT OF HUMAN RESOUURCE MANAGEMENT

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**Answer ALL QUESTIONS**

**CAT 1 (15 MARKS)**

**QUESTION ONE**

1. Explain the advantages and disadvantages of different styles of budgeting. **(3 marks)**
2. Traditional Budgeting: Advantages: It's a straightforward and easy-to-understand budgeting process that has been used for many years. Disadvantages: It's time-consuming, inflexible, and may not be suitable for all types of businesses.
3. Zero-Based Budgeting: Advantages: It encourages cost reduction and identifies inefficiencies in the budgeting process. Every expense must be justified, which leads to a more efficient use of resources. Disadvantages: It's a time-consuming process, may lead to over-analysis of smaller expenses, and can be challenging to implement in large organizations.
4. Activity-Based Budgeting: Advantages: It identifies the specific activities that drive costs, providing greater insight into the budgeting process. It also allows for better tracking and monitoring of budget performance. Disadvantages: It can be difficult to implement and may require significant changes to the organization's accounting system.
5. In his study of the impact of the budget on People Argyris reported inter alia the following comments by a financial controller on the practise of participation in the setting of budgets in his company. We bring in the Supervisors of budgets areas, we tell them that we want their frank them just sit there and nod their head. We know they're not coming out with exactly how they feel. I guess budgets scare them.'

*Required*

Suggest reasons why managers may be reluctant to participate fully in setting budgets, and suggest also unwanted side effects which may arise from the imposition of budgets by senior managements. **(4 marks)**

1. Fear of loss of control: Managers who are used to making decisions on their own may feel threatened by the participative budgeting process as it involves collaboration with others. They may worry that their authority may be undermined, and they may lose control over the budget.
2. Lack of trust: Managers may not trust their colleagues or superiors to have their best interests at heart when it comes to budgeting. They may feel that others may manipulate the budgeting process to serve their own interests or to meet specific targets.
3. Time constraints: Budgeting can be a time-consuming process, and managers may feel that they do not have the time to devote to it. This can be especially true for managers who have multiple responsibilities and competing priorities.
4. Lack of knowledge: Managers may lack the necessary financial knowledge and skills to participate fully in the budgeting process. This can lead to feelings of insecurity and reluctance to participate.
5. The imposition of budgets by senior managements can also lead to unwanted side effects, such as:
6. Demotivation: When budgets are imposed on managers without their input or buy-in, they may feel demotivated and disengaged from the budgeting process. This can lead to lower productivity, lower morale, and higher turnover rates.
7. Gaming: When budgets are imposed, managers may be tempted to manipulate the numbers to meet the targets set by senior management. This can lead to unethical behavior and the distortion of financial information.
8. Short-term focus: Imposed budgets may be based on short-term goals and may not take into account long-term strategic objectives. This can lead to a focus on short-term gains at the expense of long-term growth and sustainability.
9. Planning and control: Budgeting provides a framework for planning and controlling an organization's activities. Without a budget, it may be difficult for an organization to set goals, allocate resources, and monitor performance.
10. Resource allocation: Budgeting helps organizations allocate their resources effectively by prioritizing spending based on strategic objectives and available resources.
11. Accountability: Budgeting promotes accountability by assigning responsibility for achieving budgeted targets to specific individuals or departments.
12. Coordination: Budgeting facilitates coordination among different departments by providing a shared framework for decision-making.

**QUESTION TWO**

You work for a large multinational company which manufactures weed killers. It has been decided to introduce zero based budgeting in place of the more traditional incremental budgeting. The manager of the research and development department has never heard of zero based budgeting.

*Required*

Write a report to the manager of the research and development department which explains the following

1. How zero based budgeting Techniques differ from traditional budgeting? **(2 marks)**
2. In traditional budgeting, the previous year's budget is used as the starting point for developing the next year's budget. This approach is known as incremental budgeting. The main advantage of this method is that it is relatively quick and easy to implement. However, incremental budgeting assumes that the previous year's spending was appropriate, and it does not necessarily take into account changes in the business environment or shifts in priorities.
3. On the other hand, ZBB is a budgeting technique that involves starting each budgeting cycle from scratch. Instead of simply adjusting the previous year's budget, ZBB requires managers to justify every expense for each period. This approach forces managers to analyze their operations and determine what activities are necessary and what can be eliminated or reduced. By starting from zero, ZBB provides an opportunity to identify and eliminate unnecessary spending and make more informed decisions about resource allocation.
4. In summary, ZBB differs from traditional budgeting in that it requires a more detailed analysis of each expense, rather than simply adjusting the previous year's budget. This approach encourages managers to think critically about their operations and make more informed decisions about resource allocation.

(b) How ZBB may assist in planning and controlling discretionary costs. **(2 marks**

Zero-based budgeting (ZBB) is a budgeting method that starts from zero base and requires each expense to be justified and approved, regardless of whether the expense was included in the previous budget. This approach is particularly useful for controlling and managing discretionary costs, which are expenses that are not essential to the operation of the organization, such as travel expenses, training costs, and advertising expenses. Here are some ways ZBB may assist in planning and controlling discretionary costs:

1. Identifying unnecessary expenses: ZBB helps identify unnecessary expenses by requiring each expense to be justified and approved. This can help organizations eliminate expenses that are not critical to their operations and focus on the expenses that are necessary for achieving their goals.
2. Prioritizing expenses: ZBB requires a thorough analysis of each expense, which enables organizations to prioritize their expenses based on their importance and urgency. By prioritizing expenses, organizations can allocate their resources more effectively and ensure that they are spending their money on the most critical initiatives.
3. Promoting accountability: ZBB promotes accountability by requiring managers to justify each expense and take ownership of their budget. This can help prevent unnecessary spending and promote responsible use of resources.
4. Encouraging cost-saving initiatives: ZBB encourages managers to look for cost-saving initiatives and alternatives to traditional methods of achieving their goals. By looking for innovative and cost-effective solutions, organizations can reduce their discretionary costs without sacrificing quality or performance.

**QUESTION THREE**

1. Explain the applications of the learning curve. **(2 marks)**
2. Estimating costs: The learning curve can be used to estimate the cost of producing a product or delivering a service by predicting the reduction in the cost per unit as the cumulative volume of production or service delivery increases.
3. Planning production schedules: The learning curve can be used to plan production schedules by estimating the time required to produce a specific number of units based on the expected rate of improvement in productivity.
4. Managing labor costs: The learning curve can be used to manage labor costs by predicting the number of hours required to complete a task based on the expected rate of improvement in productivity.
5. Setting performance standards: The learning curve can be used to set performance standards by providing a benchmark for the expected rate of improvement in productivity.
6. A critic has suggested that budgets should be abolished because they introduce rigidity and hamper creativity. Discuss.  **(2 marks)**
7. I may not agree with the critic on the following grounds
8. Planning and control: Budgeting provides a framework for planning and controlling an organization's activities. Without a budget, it may be difficult for an organization to set goals, allocate resources, and monitor performance.
9. Resource allocation: Budgeting helps organizations allocate their resources effectively by prioritizing spending based on strategic objectives and available resources.
10. Accountability: Budgeting promotes accountability by assigning responsibility for achieving budgeted targets to specific individuals or departments.
11. Coordination: Budgeting facilitates coordination among different departments by providing a shared framework for decision-making.
12. I agree in the following ground
13. Time constraints: Budgeting can be a time-consuming process, and managers may feel that they do not have the time to devote to it. This can be especially true for managers who have multiple responsibilities and competing priorities.
14. Lack of knowledge: Managers may lack the necessary financial knowledge and skills to participate fully in the budgeting process. This can lead to feelings of insecurity and reluctance to participate

**CAT 2 (15 MARKS)**

**QUESTION FOUR**

High-tex Engineering Company Limited wishes to set flexible budgets for each of its operating departments. A separate maintenance department performs all routine and major repair works on the company’s equipment and facilities. The company has determined that maintenance department performs all routine and major repair works on the company’s equipment and facilities. The company has determined that maintenance cost is primarily a function of machine hours worked in the various production departments.

The maintenance cost incurred and the actual machine hours worked during the months of January, February, March and April 2019 were as follows:

|  |  |  |
| --- | --- | --- |
| **Month** | **Machine hours in**  **Production departments** | **Maintenance**  **department’s Costs** |
|  |  | **Sh.** |
| January | 800 | 350 |
| February | 1,200 | 350 |
| March | 400 | 150 |
| April | 1,600 | 550 |

**Required:**

1. Determine the cost estimation function using:
   1. High-low method. **(2 marks)**

**Cost function is in the form Y=a+ bx**

**Variable cost per unit = change in cost**

**Change in output**

**= 550-150**

**1,600-400**

**b =1/3**

**550= a+ 1/3x 1600**

**a = 550-1600/3**

**=550-533**

**Equation: Y= 17 + 0.33x**

* 1. Regression analysis  **(2 marks)**

1. Using the regression function estimate:

X Y X2 YX

January 800 350 640,000 280,000

February 1,200 350 1,440,000 420,000

March 400 150 160, 000 60,000

April 1,600 550 2,560,000 880,000

∑x=4,000 ∑Y=1,400 ∑X2=4,800,000 ∑YX=1,640,000

b = n∑yx-∑y∑x

n∑2-∑(x)2

= 4x1,640,000-1,400x4000

4x4,800,000 –(4,000)2

=960,000/3,200,000

b= 0.3

a= ∑y-b∑x

n

a== 1,400-0.3x4000

4

=50

Y=50 + 0.3x

The maintenance costs that would have been incurred if the machine hours were expected to be 900 in the month of May 2019. **(1 mark)**

Y= 50 + 0.3x

@ 900

Y= 50 + 0.3 x900

Ksh =320

=320

**QUESTION FIVE**

*Sales of article B (’000 units)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | QI | Q2 | Q3 | Q4 (Q = quarter) |
| 2015 | 24.8 | 36.3 | 38.1 | 47.5 |
| 2016 | 31.2 | 42.3 | 43.4 | 55.9 |
| 2017 | 40.0 | 48.8 | 54.0 | 69.1 |
| 2018 | 54.7 | 57.8 | 60.3 | 68.9 |

(a) Look at the data. What sort of trend and seasonal pattern do you expect to emerge from the analysis of this data? **(2 marks**

Seasonal variations Seasonal variations are short-term fluctuations in recorded values, due to different circumstances which affect results at different times of the year, on different days of the week, at different times of day, or whatever. It will be apparent that there is a strong seasonal element in the above data (low in Quarter 1 and high in Quarter 4) and there is a generally upward trend.

(b) Derive a regression equation from the data and forecast the trend in sales for the four quarters of 2019 **(2 marks**

##### **Year X Y X2 XY**

##### 2015 124.8 1 24.8

##### 2 36.3 4 72.6

##### 3 38.1 9 114.3

##### 4 47.5 16 190

##### 2016 5 31.2 25 156

##### 6 42.3 36 253.8

##### 7 43.4 49 303.8

##### 8 55.9 64 447.2

##### 2017 9 40.0 81 360

##### 10 48.8 100 488

##### 11 54.0 121 594

##### 12 69.1 144 829.2

##### 2018 13 54.7 169 711.1

##### 14 57.8 196 809.2

##### 15 60.3 225 904.5

##### 16 68.9 256 1,102.4

136 773.1 1,469 7,360.9

N=16

Least square equations

∑y = an + b∑x

∑xy = a∑x + b∑x2

773.1 = 16a + 136b

7,360.09 = 136a + 1496b

∴-1579.1 =- 680b

b = 2.3 and substituting we obtain

a = 28.8

Trend line = 28.8 + 2.3x

2019

Q1 28.8 + 2.3x 17=67.9

Q2 28.8 + 2.3x18=70.2

Q3 28.8 + 2.3x19=72.5

Q4 28.8 + 2.3x20=74.8

(c) Discuss the usefulness of this method of forecasting.

**(1 mark)**

Linear regression is a statistical tool used **to help predict future values from past values**. It is commonly used as a quantitative way to determine the underlying trend and when prices are overextended

**QUESTION SIX**

1. Equi-solutions Ltd. was formed ten years ago to provide business equipment solutions to local business. It has separate divisions for research, marketing, product design, technology and communication services, and now manufactures and supplies a wide range of business equipment. To date the company has evaluated its performance using monthly financial reports that analyze profitability by type of equipment. The managing director of Equi-solutions Ltd. has recently returned from a course in which it has been suggested that the “Balanced Scorecard” could be a useful way of measuring performance.

**Required:**

Explain the “Balanced Scorecard” and how it could be used by Equi-solutions Ltd. to measure its performance. **(2 marks)**

The Balanced Scorecard is a strategic management tool that translates an organization's vision and strategy into a set of performance indicators that can be measured and monitored. The Balanced Scorecard measures performance across four different perspectives: financial, customer, internal processes, and learning and growth.

how Balanced Scorecard could be used by Equi-solutions Ltd. to measure its performance.

1. Equi-solutions Ltd. could use the Balanced Scorecard to measure its performance by developing specific measures and indicators for each of these four perspectives. For example, for the financial perspective, the company could measure revenue growth, profitability, and return on investment. For the customer perspective, the company could measure customer satisfaction, retention, and loyalty. For the internal processes perspective, the company could measure efficiency, quality, and cycle time. Finally, for the learning and growth perspective, the company could measure employee satisfaction, training and development, and innovation.
2. By using the Balanced Scorecard, Equi-solutions Ltd. can gain a more comprehensive and balanced view of its performance, rather than just focusing on financial results. The Balanced Scorecard can help the company identify areas for improvement and track progress towards achieving its strategic objectives.

1. Describe the steps in preparation of a flexible budget **(2 marks**

##### Step 1: determination of cost behaviour patterns which means deciding whether costs are fixed, variable or semi- variable.

##### Step 2: calculate the budget cost allowance for each cost item.

##### Budget cost allowance = budgeted fixed cost\* + (number of units x variable cost per unit)\*\* \*nil for variable cost \*\*nil for fixed cost Semi-variable costs therefore need splitting into their fixed and variable components so that the budget cost allowance can be calculated. One method for splitting semi-variable costs is the high/low method. Regression analysis etc

1. Provide three reasons why standard costing conflict with schemes of continuous improvement and cost reduction programmes. **(1 mark**
2. Focus on cost reduction: Standard costing is focused on achieving a target cost, which may not always align with the objectives of continuous improvement and cost reduction programs. These programs may aim to reduce costs beyond the target cost established by standard costing, which could lead to conflict and resistance.
3. Emphasis on past performance: Standard costing is based on historical costs and performance, which may not reflect current market conditions or changes in technology. Continuous improvement and cost reduction programs, on the other hand, are focused on identifying and implementing new ways of working that can improve performance and reduce costs.
4. Inflexibility: Standard costing can create inflexibility in the organization by locking in certain assumptions and targets. Continuous improvement and cost reduction programs require flexibility to adapt to changing circumstances and new opportunities.

In conclusion, while standard costing has been a useful tool for cost accounting and management control, it can conflict with schemes of continuous improvement and cost reduction programs that require flexibility, a focus on future performance, and a broader perspective on performance measurement.