Course: Managerial Accounting (8508)
Semester: Autumn, 2021
ASSIGNMENT No. 1

Q.1

a) Define responsibility accounting, and describe the role that responsibility centers play in performance management and evaluation

Responsibility accounting is a system that involves identifying responsibility centers and their objectives, developing performance measurement schemes, and preparing and analyzing performance reports of the responsibility centers. Responsibility accounting involves gathering and reporting revenues and costs by responsibility centers. A responsibility center is a subunit of a company wherein a manager has specific authority and control. Responsibility centers can be classified into: cost center, revenue center, profit center, and investment center. 1. Responsibility accounting delegates decision making to several parts of the organization. Line managers, department heads, and supervisors are entrusted with operational decisions. The top management (executives) could then focus on strategic or long-term organizational objectives.

2. It provides a guide to the evaluation of performance. It helps to establish standards which are used for comparison with actual results.

3. It promotes management by objectives and management by exception.

Management by objectives is an approach in which a manager agrees on a set of goals or objectives (hence the term management by objective). The performance of the manager and his or her subordinates are evaluated based on achievement of these goals.

Management by exception is another managerial approach in which management gives attention to matters that materially deviate from established standards. For example: when a department has very high costs compared to what was budgeted, the management will focus on finding out the reason behind it and fixing the concern perhaps by cutting costs, process re-engineering, establishing new standards, etc.

For effective implementation of responsibility accounting, the following must be met.

1. A well-defined organizational structure. Authority and responsibility must be clearly established and understood by all levels of management.

2. Performance evaluation measures and standards must be clearly established.

3. Only items that are under the influence of the manager of the responsibility center are included in performance evaluation reports. The manager should not be evaluated based on matters that are out of his or her control.

Responsibility Centers

A responsibility center can be classified according to control over costs, revenues, and investments.

1. Cost center - A subunit of the organization that has control over cost only. It has no control over revenues and investments. Examples include: production department, maintenance department, accounting department, legal department, etc. Cost centers are evaluated using variance analysis of costs.

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2. Revenue center - has control over revenue generation, but has no control over costs and investment, e.g. the sales and marketing department. Revenue centers are evaluated using variance analysis of revenues.

3. Profit center - has control over both revenues and costs. Examples include branches operating in different geographic locations. The performance of profit centers are evaluated by measuring segment income (based on **controllable** revenues and costs).

4. Investment center - A subunit that has control over revenues, costs, and investments (assets such as receivables, inventory, fixed assets, etc.). Since investment centers are given authority to decide over its investments, it operates like a separate entity. Examples include corporate headquarters and subsidiaries. Investment centers are evaluated using different profitability measures such as return on investment, residual income, economic value-added, and others.

b) Compare the manufacturing, merchandising, and service sectors. How do they differ as to the kinds of businesses in each category, the nature of their output, and type of inventory, if any?

A merchandising firm is one of the most common types of businesses. A merchandising firm is a business that purchases finished products and resells them to consumers. Consider your local grocery store or retail clothing store. Both of these are merchandising firms. Often, merchandising firms are referred to as resellers or retailers since they are in the business of reselling a product to the consumer at a profit. Think about purchasing toothpaste from your local drug store. The drug store purchases tens of thousands of tubes of toothpaste from a wholesale distributor or manufacturer in order to get a better per-tube cost. Then, they add their mark-up (or profit margin) to the toothpaste and offer it for sale to you. The drug store did not manufacture the toothpaste; instead, they are reselling a toothpaste that they purchased.

Sales Revenue
– Cost of Goods Sold
= Gross Profit
– Operating Expenses
= Operating Profit

This simplified income statement demonstrates how merchandising firms account for their sales cycle or process. Sales revenue is the income generated from the sale of finished goods to consumers rather than from the manufacture of goods or provision of services. Since a merchandising firm has to purchase goods for resale, they account for this cost as cost of goods sold—what it cost them to acquire the goods that are then sold to the customer. The difference between what the drug store paid for the toothpaste and the revenue generated by selling the toothpaste to consumers is their gross profit. However, in order to generate sales revenue,

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merchandising firms incur expenses related to the process of operating their business and selling the merchandise. These costs are called operating expenses, and the business must deduct them from the gross profit to determine the operating profit. (Note that while the terms "operating profit" and "operating income" are often used interchangeably, in real-world interactions you should confirm exactly what the user means in using those terms.) Operating expenses incurred by a merchandising firm include insurance, marketing, administrative salaries, and rent.

A manufacturing organization is a business that uses parts, components, or raw materials to produce finished goods. These finished goods are sold either directly to the consumer or to other manufacturing firms that use them as a component part to produce a finished product. For example, **Diehard** manufactures automobile batteries that are sold directly to consumers by retail outlets such as AutoZone, **Costco**, and **Advance Auto**. However, these batteries are also sold to automobile manufacturers such as **Ford**, **Chevrolet**, or **Toyota** to be installed in cars during the manufacturing process. Regardless of who the final consumer of the final product is, Diehard must control its costs so that the sale of batteries generates revenue sufficient to keep the organization profitable.

Manufacturing firms apply direct labor to raw materials in order to produce the finished goods purchased from retailers. (credit: "work manufactures" by "dodaning0"/Pixabay, CC0) Manufacturing firms are more complex organizations than merchandising firms and therefore have a larger variety of costs to control. For example, a merchandising firm may purchase furniture to sell to consumers, whereas a manufacturing firm must acquire raw materials such as lumber, paint, hardware, glue, and varnish that they transform into furniture. The manufacturer incurs additional costs, such as direct labor, to convert the raw materials into furniture. Operating a physical plant where the production process takes place also generates costs. Some of these costs are tied directly to production, while others are general expenses necessary to operate the business. Because the manufacturing process can be highly complex, manufacturing firms constantly evaluate their production processes to determine where cost savings are possible.

A service organization is a business that earns revenue by providing intangible products, those that have no physical substance. The service industry is a vital sector of the U.S. economy, providing 65% of the U.S. private-sector gross domestic product and more than 79% of U.S. private-sector jobs.[3] If tangible products, physical goods that customers can handle and see, are provided by a service organization, they are considered ancillary sources of revenue. Large service organizations such as airlines, insurance companies, and hospitals incur a variety of costs in the provision of their services. Costs such as labor, supplies, equipment, advertising, and facility maintenance can quickly spiral out of control if management is not careful. Therefore, although their cost drivers are sometimes not as complex as those of other types of firms, cost identification and control are every bit as important in the service industry.

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For example, consider the services that a law firm provides its clients. What clients pay for are services such as representation in legal proceedings, contract negotiations, and preparation of wills. Although the true value of these services is not contained in their physical form, they are of value to the client and the source of revenue to the firm. The managing partners in the firm must be as cost conscious as their counterparts in merchandising and manufacturing firms. Accounting for costs in service firms differs from merchandising and manufacturing firms in that they do not purchase or produce goods. For example, consider a medical practice. Although some services provided are tangible products, such as medications or medical devices, the primary benefits the physicians provide their patients are the intangible services that are comprised of his or her knowledge, experience, and expertise.

Service providers have some costs (or revenue) derived from tangible goods that must be taken into account when pricing their services, but their largest cost categories are more likely to be administrative and personnel costs rather than product costs.

Service Revenue
– Operating Expenses
= Operating Profit

For example, Whichard & Klein, LLP, is a full-service accounting firm with their primary offices in Baltimore, Maryland. With two senior partners and a small staff of accountants and payroll specialists, the majority of the costs they incur are related to personnel. The value of the accounting and payroll services they provide to their clients is intangible in comparison to goods sold by a merchandiser or produced by a manufacturer but has value and is the primary source of revenue for the firm.

Q.2

a) Narrate the benefits of using budgets in a business setting. Also, write down the six principles of good budgeting.

New small business owners may run their businesses in a relaxed way and may not see the need to budget. However, if you are planning for your business' future, you will need to fund your plans. Budgeting is the most effective way to control your cashflow, allowing you to invest in new opportunities at the appropriate time.

If your business is growing, you may not always be able to be hands-on with every part of it. You may have to split your budget up between different areas such as sales, production, marketing etc. You'll find that money starts to move in many different directions through your organisation - budgets are a vital tool in ensuring that you stay in control of expenditure.

A budget is a plan to:

- control your finances

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- ensure you can continue to fund your current commitments
- enable you to make confident financial decisions and meet your objectives
- ensure you have enough money for your future projects

It outlines what you will spend your money on and how that spending will be financed. However, it is not a forecast. A forecast is a prediction of the future whereas a budget is a **planned outcome** of the future - defined by your plan that your business wants to achieve.

There are a number of benefits of drawing up a business budget, including being better able to:

- manage your money effectively
- allocate appropriate resources to projects
- monitor performance
- meet your objectives
- improve decision-making
- identify problems before they occur - such as the need to raise finance or cash flow difficulties
- plan for the future
- increase staff motivation

Creating, monitoring and managing a budget is key to business success. It should help you allocate resources where they are needed, so that your business remains profitable and successful. It need not be complicated. You simply need to work out what you are likely to earn and spend in the budget period.

Begin by asking these questions:

- What are the **projected sales** for the budget period? Be realistic - if you overestimate, it will cause you problems in the future.
- What are the **direct costs** of sales – i.e. costs of materials, components or subcontractors to make the product or supply the service?
- What are the **fixed costs** or overheads?
- You should break down the **fixed costs and overheads** by type, e.g.:
- cost of premises, including rent, municipal taxes and service charges
- staff costs –e.g. wages, benefits, Québec Parental Insurance Plan (QPIP) premiums, contributions to the Québec Pension Plan (QPP) and to the financing of the Commission des normes du travail (CNT)
- utilities – e.g. heating, lighting, telephone
- printing, postage and stationery
- vehicle expenses
- equipment costs
- advertising and promotion

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- travel and subsistence expenses
- legal and professional costs, including insurance

Your business may have different types of expenses, and you may need to divide up the budget by department. Don't forget to add in how much you need to pay yourself, and include an allowance for tax.

Your business plan should help in establishing projected sales, cost of sales, fixed costs and overheads, so it would be worthwhile preparing this first. See the page in this guide on planning for business success.

Once you've got figures for income and expenditure, you can work out how much money you're making. You can look at costs and work out ways to reduce them. You can see if you are likely to have cash flow problems, giving yourself time to do something about them.

Formulating a budget is essential for many organizations. We note below seven advantages to having (and using) a budget.

Planning Orientation

The process of creating a budget takes management away from its short-term, day-to-day management of the business and forces it to think longer-term. This is the chief goal of budgeting, even if management does not succeed in meeting its goals as outlined in the budget - at least it is thinking about the company's competitive and financial position and how to improve it.

Profitability Review

It is easy to lose sight of where a company is making most of its money, during the scramble of day-to-day management. A properly structured budget points out what aspects of the business produce money and which ones use it, which forces management to consider whether it should drop some parts of the business or expand in others.

Assumptions Review

The budgeting process forces management to think about why the company is in business, as well as its key assumptions about its business environment. A periodic re-evaluation of these issues may result in altered assumptions, which may in turn alter the way in which management decides to operate the business.

Performance Evaluations

You can work with employees to set up their goals for a budgeting period, and possibly also tie bonuses or other incentives to how they perform. You can then create budget versus actual reports to give employees feedback regarding how they are progressing toward their goals. This approach is most common with financial goals, though operational goals (such as reducing the product rework rate) can also be added to the budget for performance appraisal purposes. This system of evaluation is called responsibility accounting.

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Funding Planning

A properly structured budget should derive the amount of cash that will be spun off or which will be needed to support operations. This information is used by the treasurer to plan for the company's funding needs. This information can also be used for investment planning, so that the treasurer can decide whether to park excess cash in short-term or longer-term investment instruments.

Cash Allocation

There is only a limited amount of cash available to invest in fixed assets and working capital, and the budgeting process forces management to decide which assets are most worth investing in. In some cases, management may decide to sell off certain assets in order to generate enough cash to obtain other assets.

Bottleneck Analysis

Nearly every company has a bottleneck somewhere, and the budgeting process can be used to concentrate on what can be done to either expand the capacity of that bottleneck or shift work around it.

b) Strand Manufacturing, Inc., has the following flexible budget formulas and amounts:

Sales ....Rs. 25 per unit

Direct materials..5 per unit

Direct labor...3 per unit

Variable factory overhead ....4 per unit

Variable selling and administrative expense ....1 per unit

Fixed factory overhead ....Rs. 25,000 per month

Fixed selling and administrative expense … Rs. 20,000 per month

Actual results for the month of May for the production and sale of 5,000 units were as follows:

Sales .... Rs. 120,000

Direct materials...26,000

Direct labor...14,000

Variable factory overhead 25,500

Variable selling and admin...5,500

Fixed factory overhead...26,750

Fixed selling and admin...19,800

You are required to prepare a performance report for the month of May that includes the identification of the favorable and unfavorable variances.

First, we will calculate the variable cost product cost per unit:

Direct Materials	26,000
+ Direct Labor	14,000

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+ Variable Overhead	25,500
= Total Product Cost	65,500
÷ Total Units Produced	÷ 5,000
= Product cost per unit	13.1

Strand Manufacturing		
Income Statement (variable)		
For Month Ended May		
Sales (5,000 x 25 per unit)		125,000
Variable Costs:		
Cost of goods sold (5,000 x 13.1 per unit)	65,500	
Selling expenses (5,000 x 1 per unit)	5,000	
Total variable costs		70,500
Contribution Margin		54,500
Fixed Costs:		
Fixed overhead (fixed portion only)	26,750	
Selling expenses (fixed portion only)	19,800	
Total Fixed expenses		46550
Net Operating Income		**7,950**

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Q.3

a) What is the difference between the standard cost and the actual cost of production? How does a standard cost accounting system work, and why is it valuable to management?

Standard costs are the estimated costs for products that are predetermined and arise from the units of material, labour and other costs of production for the specific time period. Actual costs refer to the costs that are actually incurred. It's the realized value and is not an estimate. The most common methods of Actual Costing in manufacturing units are – First In First Out (FIFO), Average Costing and Last In First Out(LIFO).

Every company and segment within a business prepares a budget for costs and an estimate for revenue streams at the beginning of the financial year. The actual numbers are recorded throughout the year. At the end of the financial year, the actual costs incurred are then compared with the standard costs, as was put in the budget plan, and the variance is derived. The same approach is taken for revenue as well. Standard cost vs actual costs are terms used in management costing and are used frequently in those terms.

Let us discuss some of the major differences between Standard Cost vs Actual Cost:

1. Standard costs are the estimated costs of labour, material, and other costs of production. Actual Costs, on the other hand, are those realized during the period and compared at the end of the period.

This difference between the standard cost vs actual cost is termed as Variance. If the Actual cost is higher than the standard, it creates an unfavorable variance.

2. The standard costs are inclusive in the net sales amount and is therefore not a part of the financial statements. On the other hand, actual costs are realized during the same period but later than the date of sales made. Hence, a separate entry needs to be done in the book of accounts- financial statements.

3. Under standard costing, the stock or inventory is valued at any predetermined or pre-established cost and any variances are expensed as manufacturing variances these costs are added up to the costs of products going for production, and, hence, is used to establish the price of the finished good. Under actual costing, these costs are the actual manufacturing costs and as well show the final production cost – but this does not drive the total inventory value, unlike the standard costs.

A basis of Comparison	Standard Cost	Actual Cost
Meaning	Standard cost refers to the estimated costs of a product about the material, labour, and other overhead costs.	The actual cost is the realized cost and is not based on the estimates of the same.
Accounting Treatment	Standard Cost cannot be	Actual Costs are shown as an

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	included in the financial statements of a company.	expense in the financial statement.
Recording the Costs	These costs are recorded at the beginning of the year when the budget is planned.	These costs are incurred and realized during the entire year and recorded in the same manner.
Accuracy of Data Capture	In case of any errors in data capture, the inventory valuation does not change but shown as Variance.	In case of errors in data capture, would lead to distorted costs and actual inventory valuation.
Visibility of Issues	Method of cost using standard costs provides better visibility and chances to improve the performance, as the variances can be useful to identify the issues in the production and manufacturing process.	In the method of costing using Actual costs, certain issues can be hidden by capitalizing them with the cost of the inventory.

b) Roaming Bicycle Manufacturing Company currently produces the handlebars used in manufacturing its bicycles, which are high-quality racing bikes with limited sales. Roaming produces and sells only 6,000 bikes each year. Due to the low volume of activity, Roaming is unable to obtain the economies of scale that larger producers achieve. For example, Roaming could buy the handlebars for Rs. 35 each; they cost Rs. 32 each to make. The following is a detailed breakdown of current production costs.

Item	**Unit Cost**	**Total**
Unit-level costs		
Materials	**Rs. 18**	**Rs. 108,000**
Labor	**12**	**72,000**
Overhead	**3**	**18,000**
Allocated facility-level costs	**5**	**30,000**

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	Rs. 38	Rs. 228,000

After seeing these figures, Roaming's president remarked that it would be foolish for the company to continue to produce the handlebars at Rs. 38 each when it can buy them for Rs. 35 each.

Required: Do you agree with the president's conclusion? Support your answer with appropriate computations.

Outsourcing:

Outsourcing is a process in which firms decide to outsource products or service and this lets companies to focus on its primary function. Outsourcing decisions are usually known as **"make or buy decisions"** as the managers should decide whether to buy a component product or service or to make the component in-house.

Per Unit Cost		
	Make	Buy
Direct material	18.00	
Direct labor	12.00	
Variable Overhead	3.00	
Outside purchase price		38.00
Total Cost	33.00	38.00

Applied overhead will not be avoided whatever the decision is hence it is irrelevant. The cost of buying is more than making hence it's better to making analysis.

Differential Analysis		
	Make	Buy
Direct material	108,000	
Direct labor	72,000	
Variable Overheads	18,000	
Purchase price		229,400
Total relevant Cost	198,000	228,000

Overall Result:

	Per unit	Total
Total relevant cost	33.00	198,000

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Q.4

Ella Mae Simpson is the owner of a hairdressing salon in Palm Coast, Florida. Her salon provides three basic services: shampoo and set, permanents, and cut and blow dry. The following are its operating results from the past quarter:

Type of Service	Number of Customers	Total Sales	Contribution Margin in Rupees
Shampoo and set	1,200	Rs.24,000	Rs.14,700
Permanents	420		15,120
Cut and blow dry	1,000	21,000	10,000
		15,000	
	2,620	Rs.60,000	Rs.39,820
Total fixed costs			30,000
Profit			Rs. 9,820

You are required to compute the breakeven point in units based on the weighted-average contribution margin for the sales mix.

Product	Selling Price	Variable Cost	Contribution Margin	Sales Mix	Weighted Average Contribution Margin
Shampoo and Set	20	(24,000-14700)/1200 = 7.75	12.00	24,000/60,000 =0.4=40%	4.80
Permanents	50	(21000-15120)/420 = 14	36.00	21,000/60,000 =0.35=35%	12.60
Cut and blow Dry	15	(15000-10000)/1000 = 5	10.00	15,000/60,000 = 0.25 = 25%	2.50
Weighted Average Contribution Margin					**20.00**

One Bundle = 8:7:5

One Bundle = 8 Shampoo and Set, 7 Permanents, 5 Cut and blow Dry

Q.5

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Green Soy Products (GSP) buys soya beans and processes them into other soya products. Each ton of soya beans that GSP purchases for Rs. 300 can be converted for an additional Rs. 200 into 500 pounds of soya meal and 100 gallons of soya oil. A pound of soy meal can be sold at split off for Rs. 2 and soy oil can be sold in bulk for Rs. 5 per gallon.

GSP can process the 500 pounds of soy meal into 600 pounds of soya cookies at an additional cost of Rs. 300. Each pound of soya cookies can be sold for Rs. 3 per pound. The 100 gallons of soya oil can be packaged at a cost of Rs. 200 and made into 400 quarts of Soya. Each quart of Soya can be sold for Rs. 1.50.

Required:

i. **Allocate the joint cost to the cookies and the Soya using the (a) Sales value at split off method and (b) NRV method**

ii. **Should GSP have processed each of the products further? What effect does the allocation method have on this decision?**

Total joint cost= 300 + 200= 500

Particulars	**Soya Meal**	**Soya Oil**	**Total**
Sale value at split off	1000	500	1500
Weighing	66.7%	33.3%	100%
Joint cost allocated	300	200	500
Particulars	**Soya Meal**	**Soya Oil**	**Total**
Final sale value of production	1800	600	2400
Deduct separable cost	-370	-210	-580
Net realizable value	1430	390	1820
Weighing	78.5%	21.5%	100%
Joint cost allocated	330	170	500
Particulars	**Soya Meal**	**Soya Oil**	**Total**
Sale value at split off	1000	500	
Process Further: NRV	1430	390	
Profit (loss) from process	430	-110	

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