COST & MANAGEMENT ACCOUNTING

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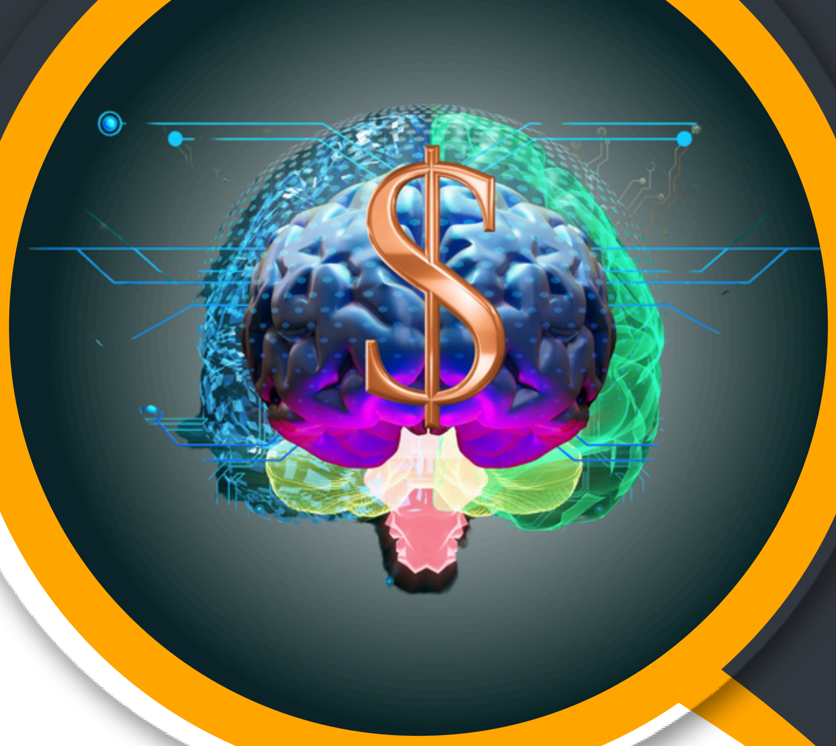

Be grateful, praise and deep gratitude to Allah S.W.T for the abundance of grace, help, love, and guidance of Him given to the writer that made this e-book can be completed properly.

We sincerely hope that this book will be a valuable aid and reference to all especially students of Commerce Department throughout all polytechnics in Malaysia.

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2025

PREFACE

Cost and Management Accounting is a very interesting course to study. It can be explained in more depth related to cost determination and the role of managers in helping to provide the needs of the superiors.

The course also builds on the knowledge acquired from the course entitled and can be introduces of some new concepts and strategy, and uses of accounting tools and techniques in the analysis, planning and control of business operations and also can improve the management in decision making processes.

This e-book can help students make the best analysis to help improve the company's capabilities. Based on a certain situation, students are able to delve into the reality of the situation in helping to make decisions on behalf of the company. E-book Cost & Management Accounting is specially written for polytechnic students who are pursuing diploma courses in accountancy. This book is primary aimed to be used as a main reference for students who are at the foundation level of a cost & management accounting course it was written according to the polytechnic latest syllabus. It written in simple English to enable students to obtain an understanding the important concept, analysis and the best strategy and techniques. Designed in line with the latest syllabus prescribe in Malaysian polytechnic, its covers six essential topic. Every topic discussed within the necessary scope and depth relevant with diploma student level. It is our sincere wish that students especially in IPTA may find this e-book useful and valuable aid to understand this subject. We hope that student and academicians will get benefit from this publication and this book will contribute to the advancement of cost & management Accounting and can be used in real businesses and companies in Malaysia.

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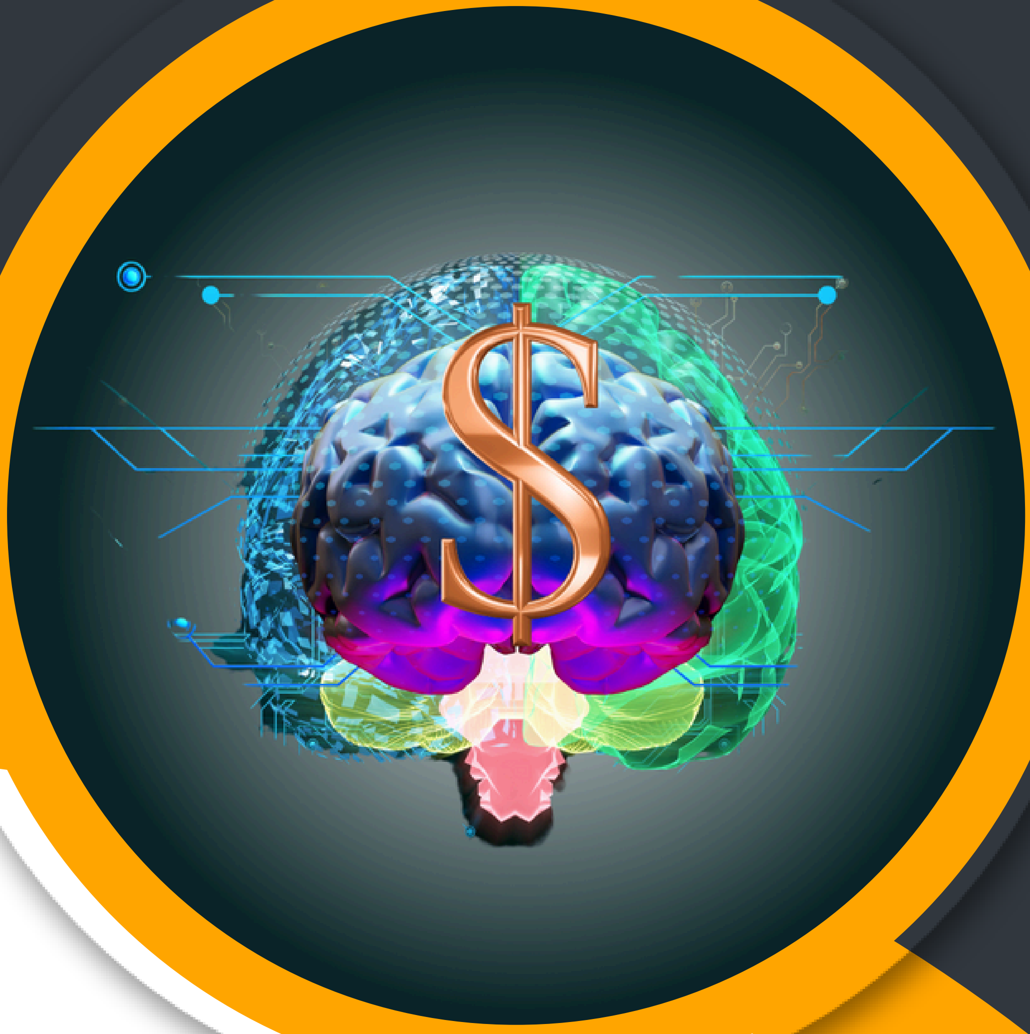

CHAPTER 1 - INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING

- Balanced scorecard
- Value chain
- Activity-based costing (ABC)
- Target costing
- Lean Accounting
- Life Cycle Costing
- Total Quality Management
- Business Ethics
- Management Accounting (MA)

a) The balanced scorecard

What is a balanced scorecard?

- A balanced scorecard is a strategic planning framework that companies use to assign priority to their products, projects, and services; communicate about their targets or goals; and plan their routine activities. The scorecard enables companies to monitor and measure the success of their strategies to determine how well they have performed.

The balanced scorecard is anchored on four perspectives, which include financial, business process, customer, and organizational capacity.

A balanced scorecard is used to help in the strategic management of organizations.

It enables entities to discover their shortcomings and come up with strategies to overcome them.

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- The balanced scorecard acts as a structured report that measures the performance of company management. The management team can be evaluated against Key Performance Indicators (KPIs) to show their contributions to the strategy and attainment of the targets set forth. Success is measured against the specified goals or targets to determine the rate at which the business is growing and how it compares to its competitors.

01 Financial perspective

Under the financial perspective, the goal of a company is to ensure that it earns a return on the investments made and manages key risks involved in running the business. The goals can be achieved by satisfying the needs of all players involved with the business, such as the shareholders, customers, and suppliers.

02 Customer perspective

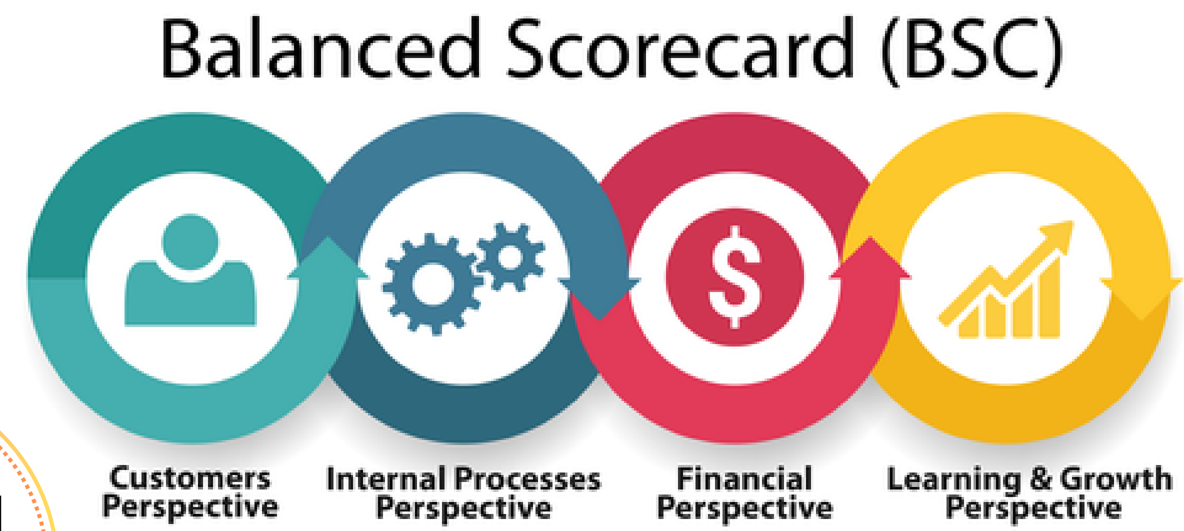
The customer perspective monitors how the entity is providing value to its customers and determines the level of customer satisfaction with the company's products or services. Customer satisfaction is an indicator of the company's success. How well a company treats its customers can obviously affect its profitability.

03 Internal business processes perspective

A business' internal processes determine how well the entity runs. A balanced scorecard puts into perspective the measures and objectives that can help the business run more effectively. Also, the scorecard helps evaluate the company's products or services and determine whether they conform to the standards that customers desire

04 Organizational capacity perspective

Organizational capacity is important in optimizing goals and objectives with favorable results. The personnel in the organization's departments are required to demonstrate high performance in terms of leadership, the entity's culture, application of knowledge, and skill sets.



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Four Perspectives of the Balanced Scorecard

Better Strategic Planning

The business model is visualised in a Strategy Map which helps managers to think about cause-and-effect relationships between the different strategic objectives

Better Alignment of Projects and Initiatives

The Balanced Scorecard help organisations map their projects and initiatives to the different strategic objectives, which in turn ensures that the projects and initiatives are tightly focused on delivering the most strategic objectives.

Better Management Information

The Balanced Scorecard approach helps organisations design key performance indicators for their various strategic objectives. This ensures that companies are measuring what actually matters.

Benefits of a Balanced Scorecard

Improved Performance Reporting

The Balanced Scorecard can be used to guide the design of performance reports and dashboards. This ensures that the management reporting focuses on the most important strategic issues and helps companies monitor the execution of their plan.

Better Organisationa l Alignment

The Balanced Scorecard enables companies to better align their organisational structure with the strategic objectives. In order to execute a plan well, organisations need to ensure that all business units and support functions are working towards the same goals

Improved Strategy Communication & Execution

Having a one-page picture of the strategy allows companies to easily communicate strategy internally and externally

b) Value Chain

What is a value chain?

- A value chain is a concept describing the full chain of a business's activities in the creation of a product or service from the initial reception of materials all the way through its delivery to market, and everything in between.

What is a value chain framework?

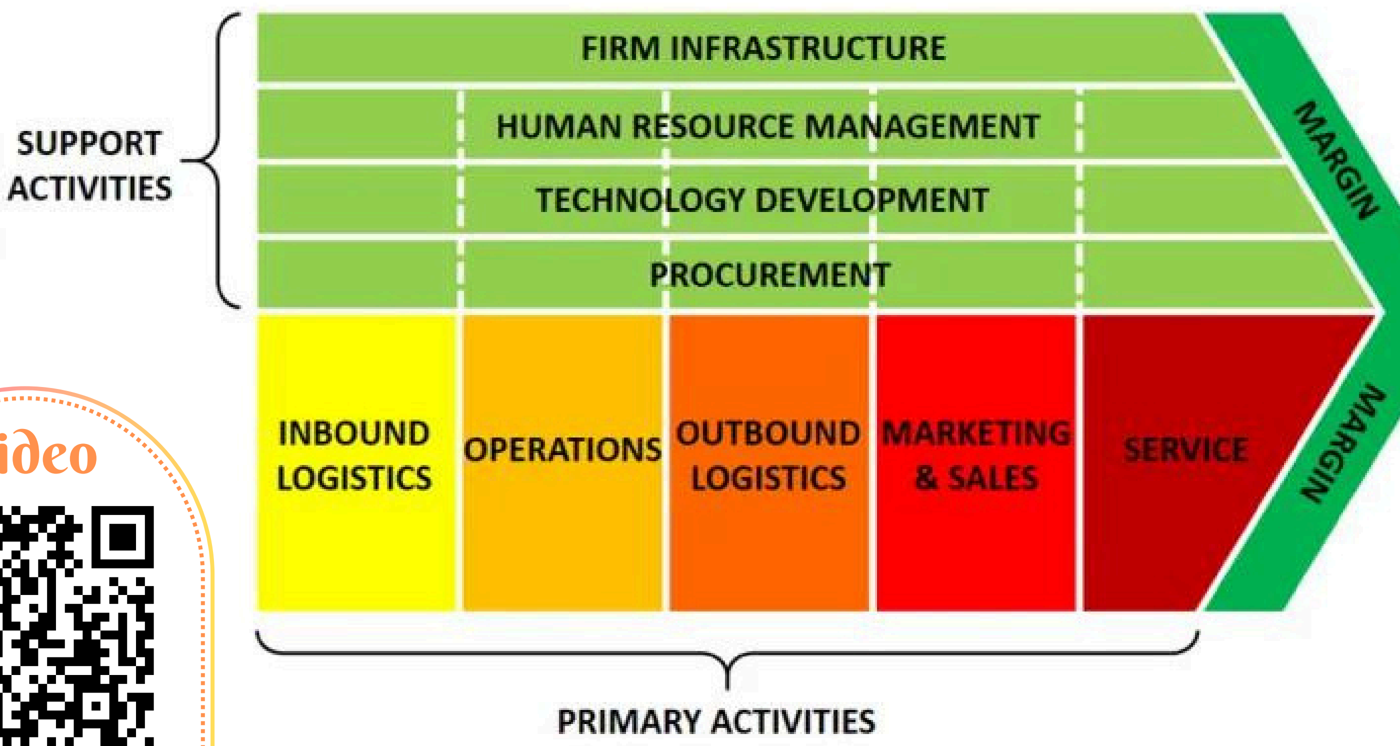
- Primary activities :
  - i) Inbound operations
  - ii) Operations
  - iii) Outbound logistics
  - iv) marketing
  - v) Sales, service

- Secondary activities :.
  - i) procurement and purchasing
  - ii) human resource management
  - iii) technological development
  - iv) company infrastructure.

c. What is a value chain analysis?

- A value chain analysis is when a business identifies its primary and secondary activities and subactivities, and evaluates the efficiency of each point. A value chain analysis can reveal linkages, dependencies and other patterns in the value chain

Porter's Value Chain



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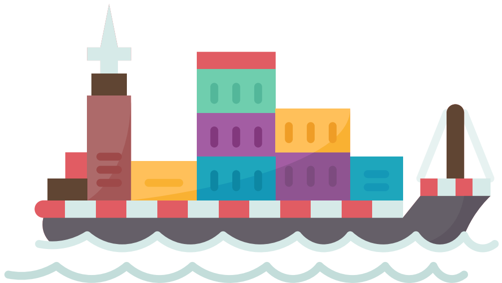
The value chain framework

1 - PRIMARY ACTIVITIES

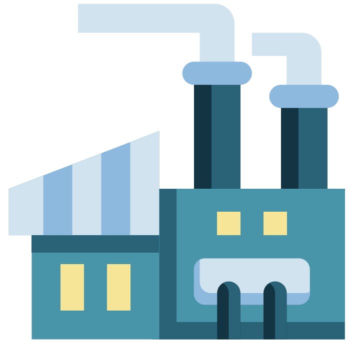


1 INBOUND OPERATIONS

The internal handling and management of resources coming from outside sources such as external vendors and other supply chain sources. These outside resources flowing in are called "inputs" and may include raw materials..

2 OPERATIONS

Activities and processes that transform inputs into "outputs" -- the product or service being sold by the business that flow out to customers. These "outputs" are the core products that can be sold for a higher price than the cost of materials and production to create a profit.

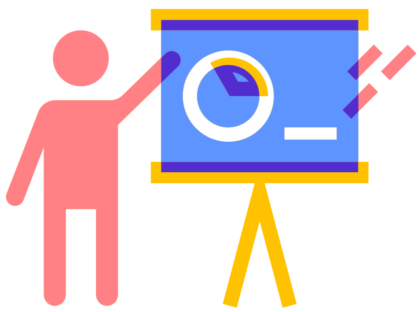


3 OUTBOUND LOGISTICS

The delivery of outputs to customers. Processes involve systems for storage, collection and distribution to customers. This includes managing a company's internal systems and external systems from customer organizations.

4 MARKETING AND SALES

Activities such as advertising and brand-building, which seek to increase visibility, reach a marketing audience and communicate why a consumer should purchase a product or service.



5 SERVICE

Activities such as customer service and product support, which reinforce a long-term relationship with the customers who have purchased a product or service.

2 - SECONDARY ACTIVITIES

PROCUREMENT AND PURCHASING

Finding new external vendors, maintaining vendor relationships, and negotiating prices and other activities related to bringing in the necessary materials and resources used to build a product or service.

HUMAN RESOURCE MANAGEMENT

The management of human capital. This includes functions such as hiring, training, building and maintaining an organizational culture; and maintaining positive employee relationships.

TECHNOLOGY DEVELOPMENT

Activities such as research and development, IT management and cybersecurity that build and maintain an organization's use of technology.

COMPANY INFRASTRUCTURE

Necessary company activities such as legal, general management, administrative, accounting, finance, public relations and quality assurance.

The value chain framework

Benefits of value chains

1. Support decisions for various business activities
2. Diagnose points of ineffectiveness for corrective action.
3. Understand linkages and dependencies between different activities and areas in the business.
4. Optimize activities to maximize output and minimize organizational expenses.
5. Potentially create a cost advantage over competitors.
6. Understand core competencies and areas of improvement.

What is a Activity-based costing (ABC)?

- Ativity-based costing (ABC) is a system you can use to find production costs. It breaks down overhead costs between production-related activities. The ABC system assigns costs to each activity that goes into production, such as workers testing a product.

- Activity-based costing (ABC) is a costing method that assigns overhead and indirect costs to related products and services. This accounting method of costing recognizes the relationship between costs, overhead activities, and manufactured products, assigning indirect costs to products less arbitrarily than traditional costing methods. However, some indirect costs, such as management and office staff salaries, are difficult to assign to a product.

c. Activity-based costing (ABC)

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- Activity-based costing (ABC) is mostly used in the manufacturing industry since it enhances the reliability of cost data, hence producing nearly true costs and better classifying the costs incurred by the company during its production process.

- CIMA Official Terminology describes activity-based costing as an approach to the costing and monitoring of activities, which involves tracing resource consumption and costing final outputs. Resources are assigned to activities and activities to cost objects. The latter use cost drivers to attach activity costs to outputs.

An activity is a cost driver, such as purchase orders or machine setups.

Activity-based costing (ABC) is a method of assigning overhead and indirect costs—such as salaries and utilities—to products and services.

The cost driver rate, which is the cost pool total divided by cost driver, is used to calculate the amount of overhead and indirect costs related to a particular activity.

The ABC system of cost accounting is based on activities, which are considered any event, unit of work, or task with a specific goal.

THE ABC CALCULATION IS AS FOLLOWS :

01 **Identify all the activities required to create the product.**

02 Divide the activities into cost pools, which includes all the individual costs related to an activity—such as manufacturing. Calculate the total overhead of each cost pool

03 Assign each cost pool activity cost drivers, such as hours or units.

04 **Calculate the cost driver rate by dividing the total overhead in each cost pool by the total cost drivers.**

05 **Divide the total overhead of each cost pool by the total cost drivers to get the cost driver rate.**

06 Multiply the cost driver rate by the number of cost drivers.

Advantages of Activity-Based Costing

1. Allocates manufacturing overhead more accurately to products and processes that use the activity
2. Identifies inefficient processes and target for improvements
3. Discovers which processes have unnecessary and wasted costs
4. Determines product profit margins more precisely
5. Offers better understanding and justification of costs in manufacturing overhead

ACCOUNTING ABC:
ACTIVITY
BASED
COSTING

ABC
Activity-Based Costing

Disadvantages of Activity-Based Costing

1. Source data isn't always readily available from normal accounting reports
2. Costs more to accumulate and analyze information
3. Collection and preparation of data is time-consuming
4. May not be as useful for companies where overhead is small in proportion to total operating costs
5. Reports from ABC don't always conform to generally accepted accounting principles and can't be used for external reporting

d. Target Costing

What is a target costing?

- Target costing estimates product cost by subtracting a desired profit margin from a competitive market price. As the target cost makes reference to the competitive market, it is fundamentally customer-focused and an important concept for new product development.

- Because target costing encompasses a business' full costs, it applies to its full value chain. So, at one end of the value chain, customer value must be expressed in terms of the value the product and its variants generate for customers. At the other end of the value chain, it incorporates how the business will collaborate with its suppliers to generate this value. As target costing has an all-encompassing role,

- It is multidisciplinary, multifunctional and integral to the business model that generates value for customers. It's as much a change of culture as a change in process. The role of the management accountant is to partner with all the disciplines involved and to understand the impact of decisions on customers. So, it's not just about minimising product costs, but doing so while maintaining or enhancing quality for the customer.

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- Target costing is a system under which a company plans in advance for the price points, product costs, and margins that it wants to achieve for a new product. If it cannot manufacture a product at these planned levels, then it cancels the design project entirely.

- With target costing, a management team has a powerful tool for continually monitoring products from the moment they enter the design phase and onward throughout their product life cycles. It is considered one of the most important tools for achieving consistent profitability in a manufacturing environment.

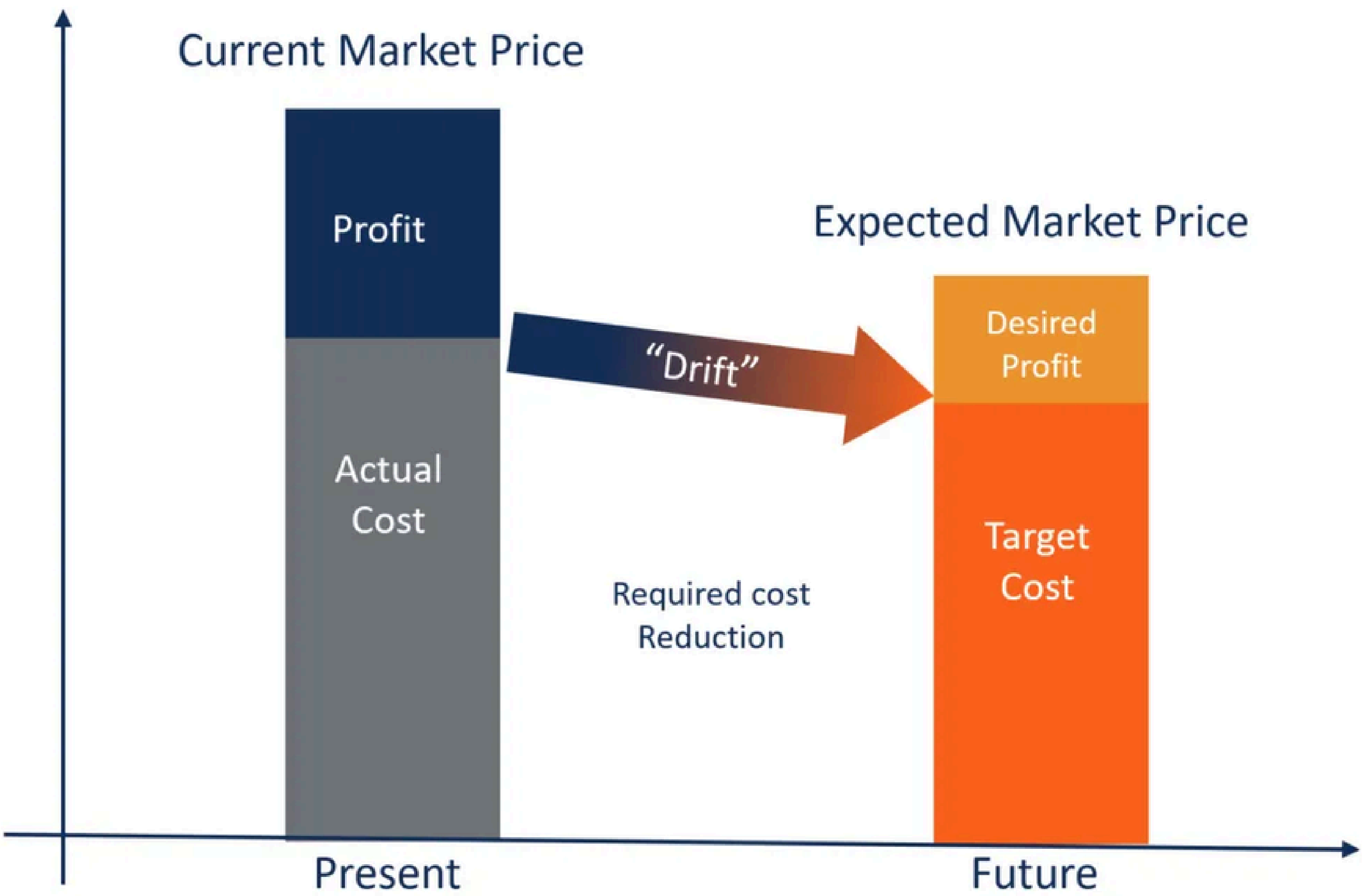
d. Target Costing

What is a target costing?

- Target costing is not just a method of costing, but rather a management technique wherein prices are determined by market conditions, taking into account several factors, such as homogeneous products, level of competition, no/low switching costs for the end customer, etc. When these factors come into the picture, management wants to control the costs, as they have little or no control over the selling price.

- The key objective of target costing is to enable management to use proactive cost planning, cost management, and cost reduction practices where costs are planned and calculated early in the design and development cycle, rather than during the later stages of product development and production.

CIMA defines target cost as "a product cost estimate derived from a competitive market price."



6 KEY FEATURES OF TARGET COSTING:

- The minimum required profit margin is already included in the target selling price.
- The price of the product is determined by market conditions. The company is a price taker rather than a price maker.
- It is part of management's strategy to focus on cost reduction and effective cost management.
- Product design, specifications, and customer expectations are already built-in while formulating the total selling price.
- TThe difference between the current cost and the target cost is the "cost reduction," which management wants to achieve.
- A team is formed to integrate activities such as designing, purchasing, manufacturing, marketing, etc., to find and achieve the target cost.

5 ADVANTAGES OF TARGET COSTING :

- It shows management's commitment to process improvements and product innovation to gain competitive advantages.
- The product is created from the expectation of the customer and, hence, the cost is also based on similar lines. Thus, the customer feels more value is delivered.
- The company's approach to designing and manufacturing products becomes market-driven.
- With the passage of time, the company's operations improve drastically, creating economies of scale.
- New market opportunities can be converted into real savings to achieve the best value for money rather than to simply realize the lowest cost.

e. Life Cycle Costing

What is a Life Cycle Costing?

- Life cycle costing, or whole-life costing, is the process of estimating how much money business will spend on an asset over the course of its useful life. Whole-life costing covers an asset's costs from the time you purchase it to the time business get rid of it.
- Buying an asset is a cost commitment that extends beyond its price tag. For example, think of a car. The car's price tag is only part of the car's overall life cycle cost.
- Business also need to consider expenses for car insurance, interest, gas, oil changes, and any other necessary maintenance to keep the car running. Not planning for these additional costs can set business back.
- The cost to buy, use, and maintain a business asset adds up. Whether business purchasing a car, a copier, a computer, or inventory, company should consider and budget for the asset's future costs.
- Life cycle costing is a system that tracks and accumulates the actual costs and revenues attributable to cost object from its invention to its abandonment. Life cycle costing involves tracing cost and revenues on a product by product base over several calendar periods.
- Life Cycle Cost (LCC) of an item represents the total cost of its ownership, and includes all the cots that will be incurred during the life of the item to acquire it, operate it, support it and finally dispose it.
- Life Cycle Costing adds all the costs over their life period and enables an evaluation on a common basis for the specified period (usually discounted costs are used). Cycle Costing is a means of estimating all the costs involved in procuring, operating, maintaining and ultimately disposing a product throughout its life.

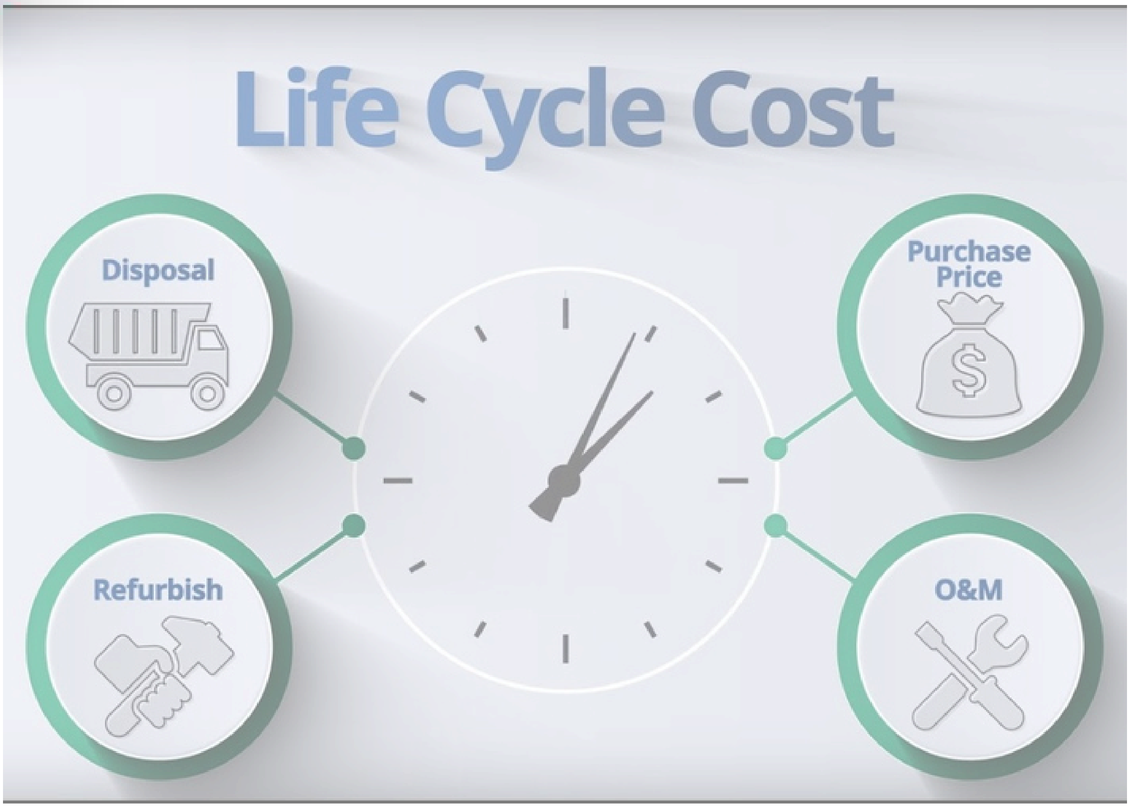
Characteristics of Life Cycle Costing

- Product life cycle costing involves tracing of costs and revenues of a product over several calendar periods throughout its life cycle.

- **Product life cycle costing traces research and design and development costs and total magnitude of these costs for each individual product and compared with product revenue.**

- Each phase of the product life-cycle poses different threats and opportunities that may require different strategic actions.

- **Product life cycle may be extended by finding new uses or users or by increasing the consumption of the present users.**



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PURPOSE OF LIFE CYCLE COST ANALYSIS THE LIFE CYCLE COST ANALYSIS HAS THE FOLLOWING MAIN PURPOSES.

Cost identification

1

- The purpose of life cycle cost analysis is to identify all types of costs that a business may not think of in the initial stages. Businesses might be tempted with a lucrative offer without realizing that over time the costs surpass the offer pretty quickly.
- Life cycle cost analysis throws light on whether profits can recover the costs incurred at different stages of a product's life cycle. Rather than compare individual costs, a cumulative comparison of the options is possible by first identifying all the costs related to the asset or product.

Costs comparison

2

- Another major purpose of Life cycle costing is cost comparison to make effective decisions that can prove fruitful in the long term. Businesses can choose to invest as they wish depending on how much they are willing to spend. When they have various options, it makes sense to compare the costs that will be incurred to make smarter decisions.
- Let us say product A has a lifetime cost of $500 while product B has a lifetime cost of $650 even though they perform the same function. Comparing costs enables businesses to decide which is the more cost-effective option from the options available. This can maximize profits.

Cost identification

3

- Life cycle costing aids in planning. A business can effectively plan when it is aware of the various costs involved. For example, let us say a product's initial costs are extremely high, it has a lifetime of 10 years, and the maintenance costs are low. With life cycle costing, a business is aware of all these costs and so it can plan budget allocation accordingly.
- Additionally, it uncovers when a product needs a higher investment in comparison. For instance, if a product needs higher investment during the operational phase, then a business is better prepared to invest and spend at that time. Without life cycle costing, expenditure planning is tougher although possible.

All costs (production and non production) will be traced to individual products over their complete life cycles and hence individual product profitability can be more accurately measured.

Benefits of product life cycle costing

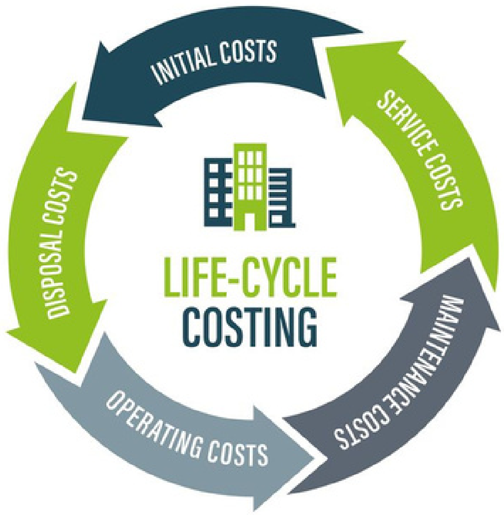
The product life cycle costing results in earlier actions to generate revenue or to lower costs than otherwise might be considered.

Better decisions should follow from a more accurate and realistic assessment of revenues and costs, at least within a particular life cycle stage.

Product life cycle thinking can promote long-term rewarding in contrast to short-term profitability rewarding.

It helps management to understand the cost consequences of developing and making a product and to identify areas in which cost reduction efforts are likely to be most effective. Very often, 90% of the product's life-cycle costs are determined by decisions made in the development stage.

Identifying the costs incurred during the different stages of a product's life cycle provides an insight into understanding and managing the total costs incurred throughout its life cycle. Non production costs will become more visible and the potential for their control is increased.



What is a Total Quality Management?

- Total quality management (TQM) is the continual process of detecting and reducing or eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience, and ensuring that employees are up to speed with training.

- Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service.

- TQM was developed by William Deming, a management consultant whose work had a great impact on Japanese manufacturing.

- While TQM shares much in common with the Six Sigma improvement process, it is not the same as Six Sigma. TQM focuses on ensuring that internal guidelines and process standards reduce errors,

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f. Total Quality Management

- A core definition of total quality management (TQM) describes a management approach to long-term success through customer satisfaction.

- In a TQM effort, all members of an organization participate in improving processes, products, services, and the culture in which they work.

- TQM can be summarized as a management system for a customer-focused organization that involves all employees in continual improvement. It uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization.

Key takeaways TQM

Total quality management (TQM) is an on going process of detecting and reducing or eliminating errors.

It is used to streamline supply chain management, improve customer service, and ensure that employees are trained.

The focus is to improve the quality of an organization's outputs, including goods and services, through the continual improvement of internal practices.

Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service.

Advantages

- Strengthened competitive position
- Enhanced market image
- Higher productivity
- Elimination of defects and waste
- Reduced costs and better cost management
- Higher profitability
- Improved customer focus and satisfaction
- Increased customer loyalty and retention
- Increased job security
- Improved employee morale
- Improved and innovative processes

g. Lean Accounting

What is a Lean Accounting?

- Lean accounting gained popularity in the first decade of the 21st century as more organizations adopted Lean practices. It involves using alternative accounting measures to better evaluate Lean's impact on process improvement strategies and business operations.

- Most importantly, it gives business leaders a way to measure success of Lean implementation. The information gleaned from using Lean accounting puts numerical value to changes organizations make through process improvement tools.

- While business leaders may often see how changes impact operations (such as improved customer satisfaction), Lean accounting puts a number to that value. Lean accounting is a different issue than applying Lean principles to accounting operations, although that also has proven successful.

- For example, one New England accounting firm that adopted Lean practices streamlined client communication, made financial documents easier to submit and opened up employees to take on new projects

- Lean accounting is streamlining accounting processes within a company to maximise productivity, service, quality, and profit.

- Lean accounting involves several 'lean practices' which are used to reduce wasted time and resources. Lean practices are not related to reporting requirements, tax regulations, and compliance, but rather to internal processes that are improving your overall accounting department.

- Lean accounting is very different from the standard accounting methods and is somewhat controversial in the world of finance. It does not replace the generally accepted accounting practices, so it should be used alongside the conventional methods of reporting.

4 key elements of Lean Accounting

Lean concepts

Ideas for improving accounting processes, the flow of information, and financial documentation.

Lean culture

Incouraging a productive work environment by streamlining communication and teamwork.

Lean planning

Connecting the business goals with lean practices that will help achieve these goals

Lean tools

The methods used to decrease waste within the company and to make the organisation 'leaner'.

LEAN ACCOUNTING EXAMPLE

- Lean accounting uses a variety of different concepts and tools to maximise efficiency and profit. Lean accounting involves looking at numbers differently than traditional accounting.

- One main approach to lean accounting is how inventory is stored and recorded. A lean company will generally have less stock at any given time to maximise short-term profits.

- Inventory will also be recorded on the balance sheet as the total value of all inventory, rather than allocating the value based on individual products.

4 The advantages of Lean Accounting

Cost control

Lean approaches are all about increasing profits and decreasing wasted costs.

Improved company culture

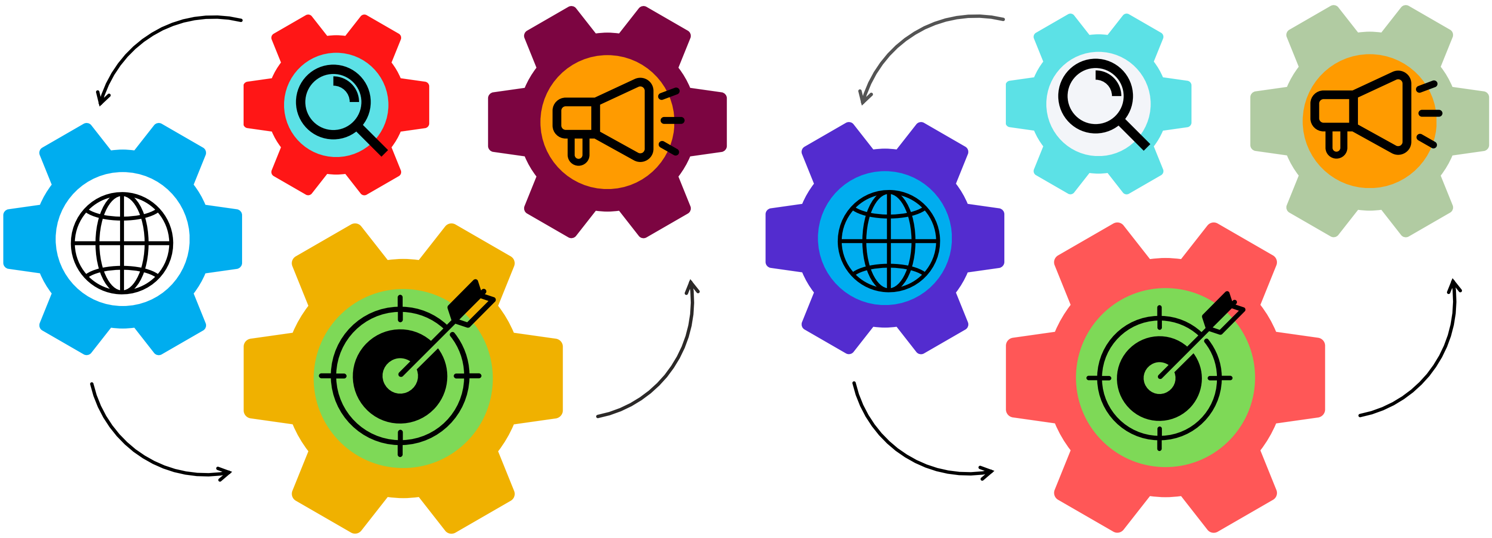
One of the main components of lean accounting is a lean culture, which will encourage teamwork, communication, and improved processes.

Less 'waste'

Lean approaches are used to decrease 'waste' such as defects, outdated tools, unnecessary costs, and slow processes.

Financial management practices

Lean accounting includes management decisions based on total value stream profits rather than cost allocation.



4 The disadvantages of Lean Accounting

Difficult to switch from traditional accounting

switching to lean accounting will involve lots of new processes and may be difficult and slow to implement for everyone to be on the same page.

High cost of implementation

Although lean accounting is all about maximising profits, the cost of implementing lean accounting is high and complex. It will usually need to be done in small steps over a long period of time.

Inventory problems

One approach to lean accounting is keeping low amounts of stock to increase short-term profits. This may cause issues if orders increase drastically.

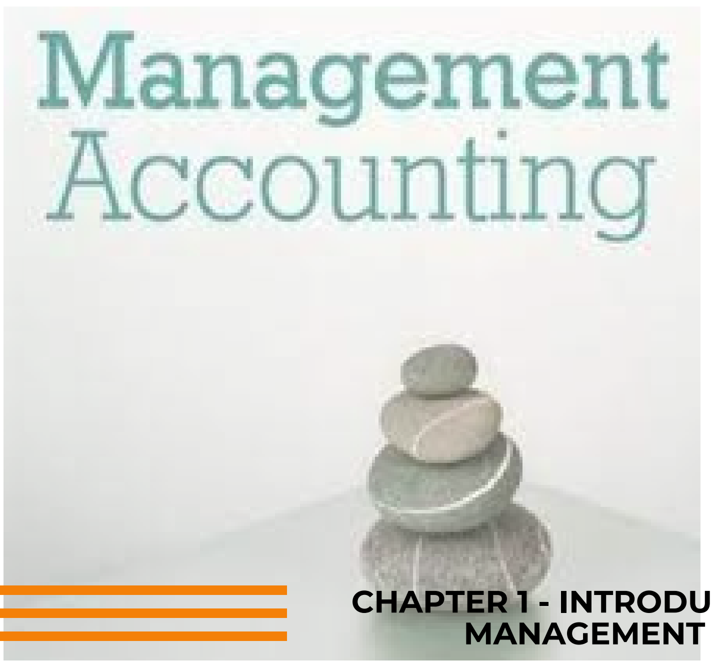
Having to do 2 sets of financial reports

Lean accounting reports usually cannot replace standard reports under your countries legal requirements

Management Accounting (MA)

What is a Management Accounting?

- Management accounting is an extension of management aspects of cost accounting and the process of measuring and reporting information about economic activity within organization.
- It provides the information to management so that planning, performance evaluation and controlling of business operations can be done in an orderly manner.
- CIMA defines management accounting as 'the application of professional knowledge and skill in the preparation and presentation of accounting information in such a way as to assist management in the formulation of policies, and in the planning and control of operations of the undertaking



- Managerial accounting (also known as cost accounting or management accounting) is a branch of accounting that is concerned with the identification, measurement, analysis, and interpretation of accounting information so that it can be used to help managers make informed operational decisions.
- Unlike financial accounting, which is primarily concentrated on the coordination and reporting of the company's financial transactions to outsiders (e.g., investors, lenders), managerial accounting is focused on internal reporting to aid decision-making.
- Managerial accountants need to analyze various events and operational metrics in order to translate data into useful information that can be leveraged by the company's management in their decision-making process. They aim to provide detailed information regarding the company's operations by analyzing each individual line of products, operating activity, facility, etc.

The Importance Management Accounting:

01 Planning

For example, deciding what products to make and where and when to make them.
Determining the materials, labor and other resources that are needed to achieve desired output.
In
not-for-profit organization, deciding which programs to fund.

02 Operational control

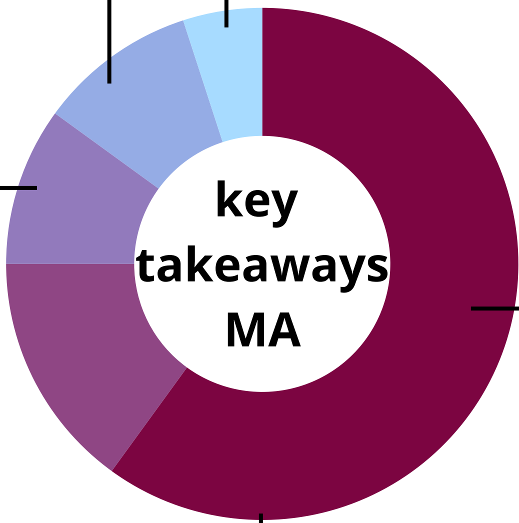
For example, knowing how much work-in-progress is on the factory floor, and at what stages of completion, to assist the line manager in identifying bottlenecks and
maintaining a smooth flow of production.

03 Performance evaluation

Evaluating the profitability of individual products and product lines.
Determining the relative contribution of different parts of the organization. In not-for-profit
organizations, evaluating the effectiveness of managers, departments and programs.

In contrast to financial accounting information, management accounting information is

- #1 Primarily forward-looking, instead of historical
- #2 Model based with a degree of abstraction to support decision making generically, instead of case based
- #3 Designed and intended for use by manager within the organization, instead of being intended for use by shareholders, creditors and public regulators
- #4 Usually confidential and used by management, instead of publicly reported
- #5 Needs of managers, often using management information systems, instead of by reference to general financial accounting standards



The minimum requirement is a bachelor's degree, but experience also helps.

Management accountants can get a special designation as certified management accountants and as chartered global management accountants.

Their duties include recording and crunching numbers, helping to choose and manage company investments, risk management, budgeting, planning, strategizing, and decision making.

Management accountants need an aptitude for and interest in numbers, math, business, and production processes, along with accounting skills, knowledge in GAAP, and leadership skills.

Management accountants work for public companies, private businesses, and government agencies.

FUNTION MANAGERIAL ACCOUNTING

Helps in forecasting profit & cash flow which company can expert from specific product line

Supports the managements in identifying the hurdles or bottlenecks

Determine break-even point of the company

Helps in analyzing trends of business using various techiques.

The characteristics 7 of an effective management accounting information system

1 Relevance

Relate to the future For example, a company will be more profitable by reducing their expenses. Then, the company had an option either to repair the old machine or buy a new machine to process the product that will be released. If they repair the old machine the cost will be SAME as the company buy a new machine

2 Understandable

Information must be understood well by the managers but most of the managers do not have a proper background in accounting and finance. Therefore, it is appropriate for management accountant used the accounting term that can be understandable to ensure that the information provided can be used to make the right decision.

3 Timely

Information is gathered before it happens. If the accounting information received after it's already been done, then no more correct action can be taken or the decision has no more value.

For example, 2015 budget is important information for the year 2016. This is to ensure that appropriate action can be taken for the coming year, such as increasing sales or reducing expenses.

4 Comparable

The information provided must be compared with the times, locations, functions, department and etc.

For example, compare the performance of a department with other department or to compare the performance of a department in certain of period. In the event of a sharp decline changes, corrections may be taken immediately.

5.1 Reliable

Relate to the future. However, it is not necessary 100% accurate but just right to make a decision. For example, the decision to reduce expenses in the future. A company have three alternative. First, make full maintenance of an existing machine that can operate at maximum capacity. Second, rent a machine. Third, buy a new machine. If there are no suppliers that provide hire services machine, the information on the cost of renting a machine should be ignored.

5.2 Complete

Information that is gathers and collects without leaving out important and useful information. For example, the company decided to buy a new machine. In making judgments on the costs involved in purchasing the machine, company should consider costs from first step to the end in gaining the machine.

6 Cost-Benefit Features

Provide cost information either directly or indirectly (time). Therefore, the information provided must provide useful information on returns at least cover the cost of providing such information. In other words, if the costs incurred are higher than the benefits, the information is considered not so good.

THE IMPORTANCE OF ETHICS IN BUSINESS

COMPETENCE

Maintain an appropriate level of professional expertise by continually developing knowledge and skills

CONFIDENTIALITY

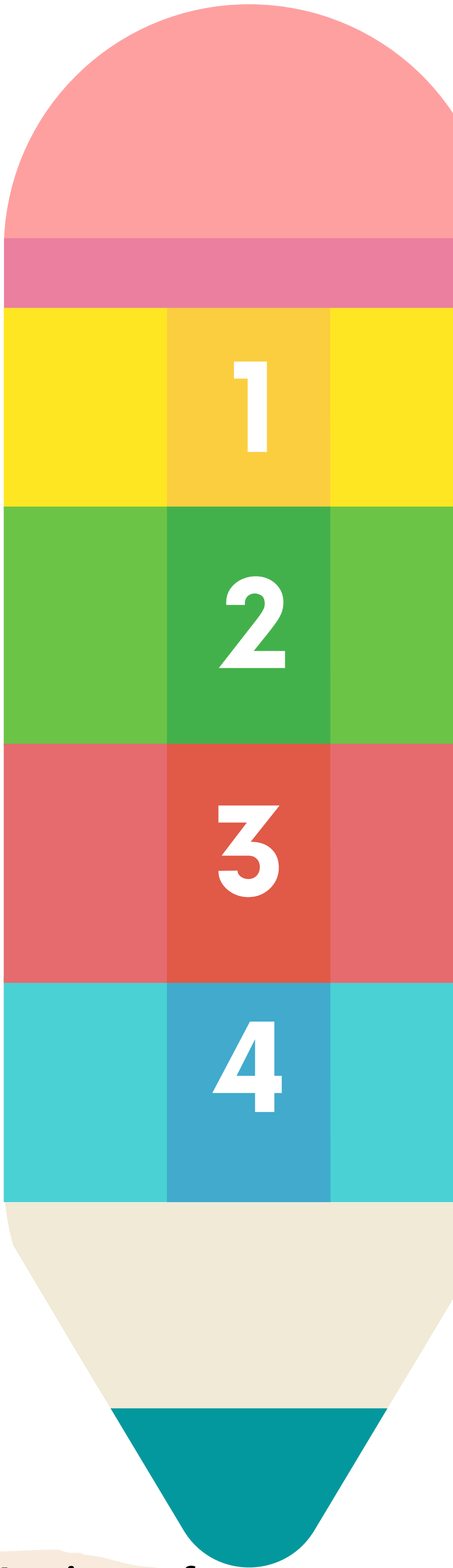
Refrain from using confidential information for unethical or illegal advantage

INTEGRITY

Abstain from engaging in or supporting any activity that might discredit the profession

CREDIBILITY

Communicate information fairly and objectively



The code of conduct for management accountants based on Institute of Management Accountants (IMA) Four standards of ethical conduct in management accountants' professional activities were developed by the Institute of Management Accountants.

Business Ethics

WHAT IS BUSINESS ETHICS?

01

By definition :

business ethics refers to the standards for morally right and wrong conduct in business. Law partially defines the conduct, but "legal" and "ethical" aren't necessarily the same. Business ethics enhances the law by outlining acceptable behaviors beyond government control.

02

By definition :

Business ethics is the study of appropriate business policies and practices regarding potentially controversial subjects including corporate governance, insider trading, bribery, discrimination, corporate social responsibility, and fiduciary responsibilities. The law often guides business ethics, but at other times business ethics provide a basic guideline that businesses can choose to follow to gain public approval

03

By definition :

Business ethics is the study of how a business should act in the face of ethical dilemmas and controversial situations. This can include a number of different situations, including how a business is governed, how stocks are traded, a business' role in social issues, and more.

04

By definition :

Business Ethics studies how to deal with corporate governance, whistleblowing, corporate culture, and corporate social responsibility. It emphasizes standard principles prescribed by governing bodies. Non-compliance with business ethics leads to unnecessary legal actions.

PRINCIPLES OF BUSINESS ETHICS

Honesty

The best way to gain the trust of the employees is to have transparent communication with them.

Compliance

Firms need to comply with all the rules and regulations.

Loyalty

The employees should be faithful to the organization and uphold the brand image. Grievances, if any, should be dealt internally.

Avoid Conflicts

Firms need to minimize conflicts of interest in the workplace. Excessive competition within the workforce can end disastrously.

Care and Respect

Professional interactions between co-workers should be responsible and respectful. Firms should make sure that the workplace is safe and harmonious.

Accountability

Ethics is all about taking individual responsibility. It goes both ways. Individuals are responsible for unethical practices of the firm because they did not come forward to become whistle-blowers.

Reasons Why Ethics are Important In business

01

Ethics minimizes costs. Fewer funds are spent in employee recruitment since most employees are retained in the business.

02

Ethics in enhances partnerships. Partnerships in the business world are very crucial. They help expand your marketplace and improve business relations. In order to get a good partner(s), your reputation must be built on a strong business ethics foundation.

03

Ethics in a business attracts more employees. When your company is reputable, more people will be interested to work for you.

04

A business that values ethics attracts more suppliers. A business without suppliers is as good as a failed enterprise. Suppliers are attracted to a company that appreciates what they supply and pay for them promptly

05

Ethics encourage teamwork. Employers and employees who trust one another work together harmoniously and effectively.

06

An ethically oriented company is bound to avoid fines. They comply with the law, file their tax returns in time, ensure quality of products and services, etc.

07

Ethics reduces business risks. As trust and loyalty are built on ethics, chances of losing potential customers, suppliers, employees and even the company itself are minimal.

08

It improves a company's bottom line (last line that shows profit or loss). The bottom line of your business will increase since costs and risks are reduced.

Reasons Why Ethics are Important In business

09

Ethics increases business profits. The decrease in risks and costs mean that the output is likely to be higher than the input hence the company makes a profit.

10

Good ethics in a business boosts the morale of the employees. Good business ethics involves rewarding your employees. When an employee is rewarded, he/she works harder leading to more profits.

11

Ethics enable a company to make good use of the limited resources. Instead of wasting the company's resources on themselves, company leaders can put them to good use.

12

Ethics lead to long-term gains. A company that values ethics believes in small, but long-term benefits rather than big, but short-term returns.

13

Ethics helps in maintaining quality. An ethical company will strive to deliver goods and services of high quality to their customers even in times when the demand is higher than supply.

14

Ethics offers extra asset protection. Employees who abide by the business ethics are in a position to respect and protect the business's assets. For instance, they will not make long personal calls using the business line.

15

Ethical practices foster community improvement. Ethics teaches the art of giving back. Ethically oriented companies will help a community to be better through things like road construction or schools construction.

16

Ethics lays the strategic decision-making. Leaders and workers of a business characterized by ethical behavior make decisions that are socially acceptable. They allow all the stakeholders to participate in the decision-making process.

Business Ethics

Key Takeaways

The motive is to prevent unethical business practices, both deliberate and inadvertent. Some unethical practices circumvent law enforcement. Even then, businesses risk paying a hidden cost—the loss of reputation.

Business ethics is the prescribed code of conduct for businesses. It is a set of guidelines for dealing with various procedures ethically.

Business ethics refers to implementing appropriate business policies and practices with regard to arguably controversial subjects.

The law usually sets the tone for business ethics, providing a basic guideline that businesses can choose to follow to gain public approval.

Some issues that come up in a discussion of ethics include corporate governance, insider trading, bribery, discrimination, social responsibility, and fiduciary responsibilities.

The discipline comprises corporate responsibility, personal responsibility, social responsibility, loyalty, fairness, respect, trustworthiness, and technology ethics. It emphasizes sustainability, customer loyalty, brand image, and employee retention.

CHAPTER 2 - COST ANALYSIS FOR PRICING DECISION

- Pricing Strategy
- Marginal Cost-Plus Pricing
- Cost-Based Pricing
- Target costing

THE PROCESS OF MAKING DECISIONS BY CONSIDERING PRICING PRODUCTS AND SERVICES.

- Pricing is an important function in any business as it provides monetary value to the products and services for customers. Pricing also incorporates socio-economic considerations like affordability and consumption levels. Setting the price must be done carefully so that all costs involved are charged to the products and services. Later, a certain amount of profit is included in order to determine the selling price.

- The objective of pricing are as follows:

i. To set a consistent target for a short-term purpose, so that in the long run, the business will be able to sustain itself in the company.
ii. To acquire a desired share in the market for development purposes.

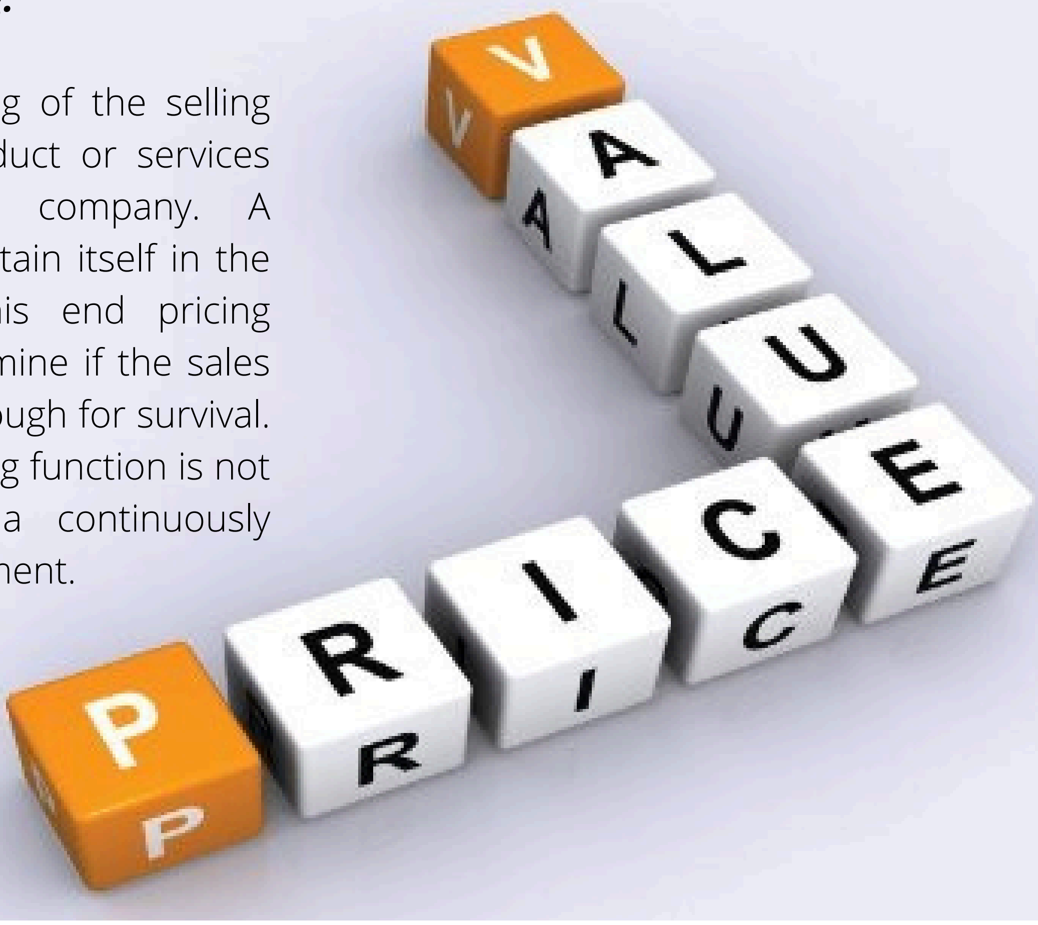
iii. To encourage constant prices which are reasonable in order to contribute to price stability in the country.

iv. To establish a profit margin as an incentive to link sales and cost, either on a unit or in total.

v. To promote and continue effective and efficient competition in the market.

The objective of pricing.

- Pricing is the setting of the selling price for each product or services supplied by the company. A business has to sustain itself in the market and to this end pricing decisions will determine if the sales income is stable enough for survival. Therefore, the pricing function is not fixed but rather a continuously process of improvement.



The factors that influencing of a product or services.

• There are various factors to be considered when doing pricing, mostly internal and external factors involving cost and profit objectives, which determine the pricing strategy. As a result, many factors have a direct influence on pricing.

• The factors that can influencing pricing
:

i. Required rate of return, such as profit margin, return on capital employed, return on investment and other accounting ratios influence the expected return from the product or services.

ii. The level of profit required, in absolute figures for growth purposes.

iii. The selling price that is deemed reasonable.

iv. Target customers and their affordability, i.e, level of income, age group, geographical location, taste, demand and etc.

v. The present progress and achievement of the business for the product and services provided, for examples current sales and demand.

vi. The rate of demand, whether flexible or rigid, when prices change over time.

vii. The shelf life and quality of the product or services, and whether they will have continuous demand over a period of time.

viii. The condition of the product, whether they are long lasting or perishable. ix. The type of product, whether they are similar or suitable for market.

x. Existence of the price leader in the market economy will determine the products and services provided are able to sustain themselves at the price or may need price reductions. The price leader will ensure that the price it sets will be benchmarked for other similar products of the competitors.

The price elasticity of demand and profit maximizing price.

- From the economic theories tend to focus on the demand function whereby the higher price, the lower demand. Demand and supply are two important factors which determine the setting of price equilibrium. The economist will recommend increasing the price when the demand is more, and decreasing the price when demand is less.

- The level of competitiveness also will determine how demand and supply match when new business enter or exit the market. The types of market ranges from highly competitive with many sellers who cannot control the market price, to the single supplier or monopolist who control and sets the price.

- Profit tends to increase as the demand of the products and services increase. And profit will also increase when the cost of production drops.

Pricing Strategy

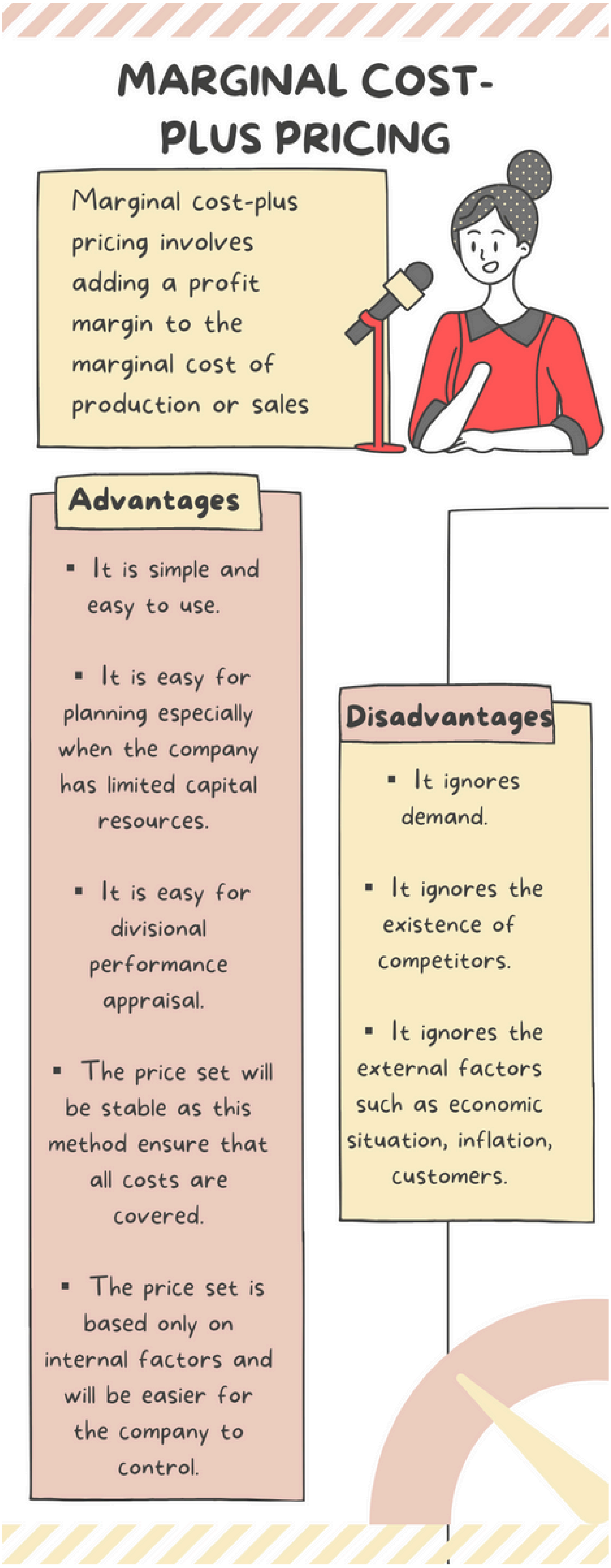
In business, cost is one of the most important factors that influences price setting.

a. Full Cost-plus Pricing

The full cost may be fully absorbed production costs only or it may include some absorbed administration, selling and distribution overhead. A business might decide on an average profit markup of a certain percentage as a general guideline for pricing setting.

b. Marginal Cost-plus

Pricing Marginal cost-plus pricing involves adding a profit margin to the marginal cost of production or sales.



c. Relevant Cost Relevant

cost is cost that will make a difference between alternative courses of actions and will have a bearing on the decision made. It a type of cost which will make a difference in the choice of an option, and is therefore relevant for decision making purposes.

d. Price Skimming

- It involves charging high prices when a product is first lunched and lower prices as the products moves later stages of the product life cycle. This is a great way to attract consumers—especially high-income shoppers—who consider themselves early adopters or trendsetters.

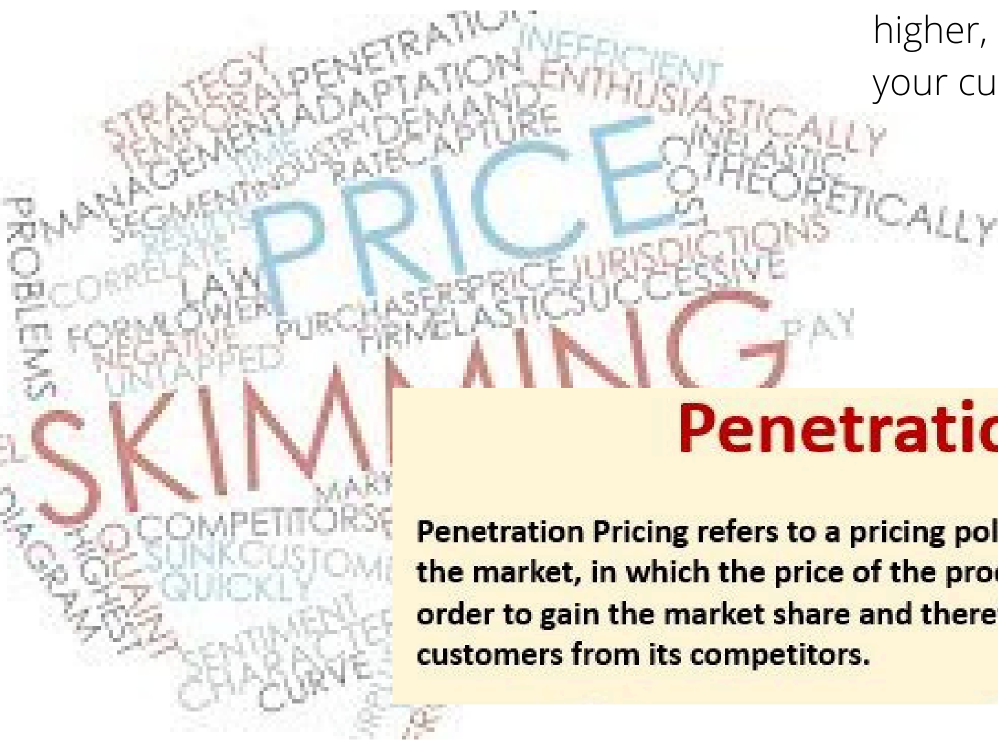
- From a business owner's perspective, price skimming can be extremely helpful in helping you break even faster. This strategy provides an ample amount of security—granted that your initial price isn't too extreme — before making your product or service more accessible to the greater market.

- Price skimming can be particularly useful for business-to-consumer (B2C) brands that rely on fast-moving trends.

- Think about how fashion retailers almost always launch product lines at a higher price, then put them on sale as soon as new, trendier clothes come in. Electronics retailers also frequently use price skimming, starting with premium pricing when phones or laptops with new features launch.

Price Skimming

Strategy aims	• High short-term profit
Product or service type	• New, innovative or improvised
Target market changes as price decreases	• Skimming off market segments
Suitable when	• Demand is inelastic



e. Penetration Pricing

- A penetration pricing strategy is the opposite of price skimming. Instead of starting with high prices, you start with low prices and gradually increase them as they gain traction. While this does put you at risk for limited or zero profit in the beginning, depending on how low you actually go, it also quickly converts. In the same way that a free sample can encourage a customer to make a purchase, you're providing a discounted experience to create customer loyalty.

- Penetration pricing is designed to put the spotlight on your brand. Because of this, your prices will always start lower than what your competitors are charging. Once you've successfully achieved market penetration, you can rise to an equivalent price or even higher, depending on how positive your customer feedback is.

Penetration Pricing

Penetration Pricing refers to a pricing policy generally used by a new entrant in the market, in which the price of the product is set at disruptively lower levels in order to gain the market share and therefore penetrate the market by attracting customers from its competitors.

f. Complementary Product

- Is a method in which one of the products is priced to maximize the sales volume and which in turn stimulates the demand of other product.

- One product is priced low, just to cover the costs with little or no profit margin while the other product is priced high with a very high profit margin. Both the products are complementary products i.e use of one product is complemented by the other. This strategy is basically followed to overcome the loss due to product's sale by the profit provided by the sales of the other complementary product

- For examples Printer & cartridge. This strategy is successful because once you have bought a printer; you are required to buy the complementary cartridge unless you are willing to buy in a new printer itself. Also, Companies avoid competitors selling ink for their printers by having unique cartridges.

g. Product-line Pricing

- Product line pricing refers to the practice of reviewing and setting prices for multiple products that a company offers in coordination with one another.

- Rather than looking at each product separately and setting its price, product-line pricing strategies aim to maximize the sales of different products by creating more complementary, rather than competitive, products. If you offer more than one product or service, consider the impact that one product's or service's price will have on the others.

h. Volume Discounting

- Differentiation on the basis of the quantity discount is one of the ways of pricing for different segments. Thus, small lots of purchase will usually get lesser discount where the higher discounts will be given for bulk purchase. Sometimes discount is given in order to get rid of perishable goods that have reached the end of their shelf life or in order to increase sales during poor sales period without permanently dropping prices.

i. Differential or Price Discrimination

- Different price is set based on the product type, market segment, place or time. With this product differentiation, the firm creates a unique product for the market. Product differential may be in the form of packaging, quality, brand image and customer service. Price discrimination is the practice of charging different prices for the same product to different group of customers when these prices are reflective of cost different.

PRICING STRATEGIES

Full Cost-plus Pricing

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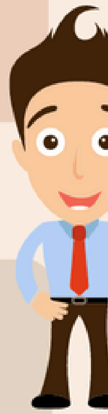

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DETERMINE THE COMPUTATION OF THE SELLING PRICE OF A PRODUCT AND SERVICES

a. Marginal Cost-Plus Pricing and Full Cost Pricing

Marginal Cost-Plus Pricing:

- Marginal-cost pricing, in economics, the practice of setting the price of a product to equal the extra cost of producing an extra unit of output. By this policy, a producer charges, for each product unit sold, only the addition to total cost resulting from materials and direct labour.
- The incremental costs incurred in producing additional units of a good or service. Only variable costs charged to cost units and fixed costs of the period written off in full against the aggregate contribution.

Full Cost Pricing:

Price-setting method under which you add together all the cost involved in making a product or services. All fixed and variable costs areused to compute the total cost per unit. Both approaches are functional under the right situations, and each provide contrast objective for the business. An example on how both approaches underline the different solution stated as example 1.

Example 1

Marginal Cost-Plus Pricing & Full Cost Pricing

Amiin Maju Sdn Bhd produce metal furniture and distribute them all over west Malaysia. The management accountant prices the product at cost plus. The following are related data for the production

Element of cost	Cost	Cost per unit (RM)
Materials	RM40/kg	80
Direct labour	RM30/hour	45
Manufacturing Overhead	40% is fixed	40
Administrative Overhead	30% is variable	20

The company expects a profit margin of 20%. Calculate the price per unit product using:

a) Marginal Cost-plus Pricing

b) Full-cost Pricing

Suggestion Solution :

a) Marginal Cost-plus Pricing

Marginal Cost
= RM80 + RM45 + (RM40 x 60%) + (RM20 x 30%)
= RM155

Price = RM155 + (RM155 x 20%)
= RM186

b) Full-cost Pricing

Total Cost
= RM80 + RM45 + RM40 + RM20
=RM185

Price
=RM185 + (RM185 x 20%)
=RM222

Optimum Selling Price

- The price at which profit is maximized, which takes into account the cost behaviors of fixed and variable costs and the relationship between price and demand for a product / service.

- The optimum price is the price at which a seller can make the most profit. In other words, the price point at which the seller's total profit is maximized. We can refer to the optimum price as the profit maximizing price. The optimum price refers to both products and services.

- There are various ways to determine this price. • If a product's price is too low, the manufacturer is moving lots of it. However, the company is not earning the maximum possible profit from that product.

- However, when a product's price is too high, the manufacturer moves too few units. Even though it earns a high margin per unit, its profit is not the highest possible. • Most companies find their optimal price through trial and error. When they find the price point that gives them the ideal sales volume, they have reached the optimum price.

Maximum Profit

This will happen when...

Marginal Revenue = Marginal Cost (Variable cost).

Marginal revenue (MR) can be calculated by this equation:

$$\mathbf{MR = a - 2bQ}$$

Where :

- a is theoretical maximum price (if price is set at 'a' or above, demand will be zero)

- b is the gradient of the line, calculated by = ΔP / ΔQ

- Q is quantity demand at that price

- P is the selling price

Example 2

Optimum Selling Price

Variable cost = RM24 per unit.

At a selling price of RM60, demand is 1,000 units per week.

For every RM10 increase in selling price, demand reduces by 50 units

Calculate the Optimum Selling Price:

Suggestion Solution :

$P = a - bQ$

the selling price

$b = \Delta P / \Delta Q$

$= 10 / 50$

$= 0.2$

$60 = a - 0.2\,(1{,}000)$

$a = RM260$

$P = 260 - 0.2Q$

$MR = 260 - 0.4Q$

If $MR = MC$,

$24 = 260 - 0.4Q$

$0.4Q = 260 - 24 = 236$

$Q = RM590$

$P = 260 - 0.2(590)$

$P = 260 - 118$

$P = RM142 \neq$

Determine prices and output levels for profit maximization using the demand-based approach to pricing

a) Cost-Based Pricing

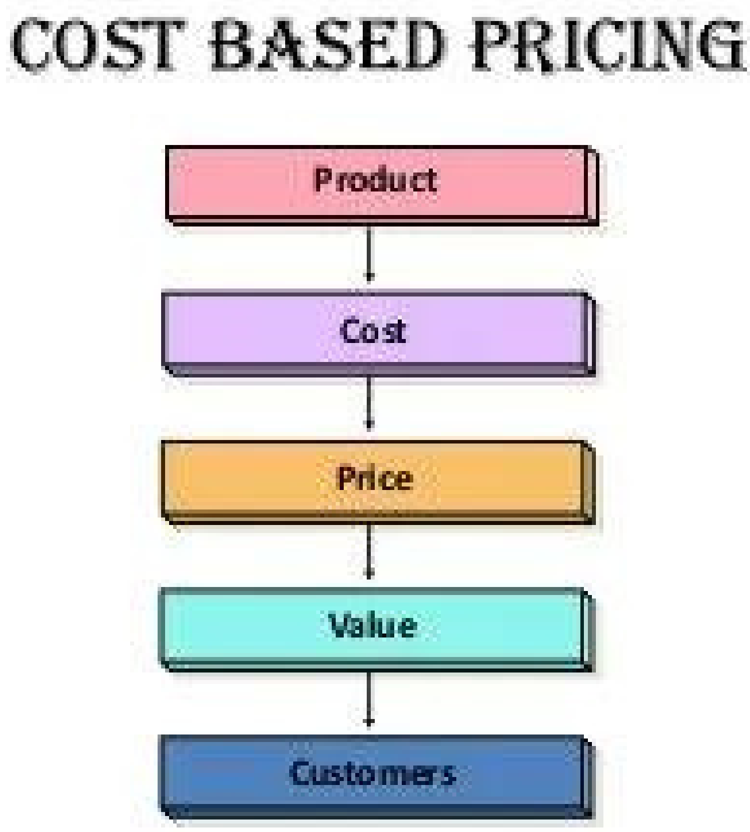
- A firm calculates the cost of producing the product and adds on a percentage (profit) to that price to give the selling price. This appears in two forms: the first, full cost pricing, takes into consideration both variable and fixed costs and adds a % markup.

- The other is direct cost pricing, which is variable costs plus a % markup. The latter is only used in periods of high competition as this method usually leads to a loss in the long run. This method, although simple, does not take demand into account, and there is no way of determining if potential customers will purchase the product at the calculated price.

- Cost-plus pricing is a method used by companies to maximize their profits. There are several varieties, but the common thread is that one first calculates the cost of the product, then adds a proportion of it as markup. Basically, this approach sets prices that cover the cost of production and provide enough profit margin to the firm to earn its target rate of return. It is a way for companies to calculate how much profit they will make.

- Cost-plus pricing is used primarily because it is easy to calculate and requires little information, therefore it is useful when information on demand and costs is not easily available. This additional information is necessary to generate accurate estimates of marginal costs and revenues.

- However, the process of obtaining this additional information is expensive. Therefore, cost-plus pricing is often considered the most rational approach in maximizing profits. This approach relies on arbitrary costs and arbitrary markup.



b) Demand-Based Pricing

- Demand-based pricing is any pricing method that uses consumer demand, based on perceived value, as the central element.

- These include: price skimming, price discrimination, price points, psychological pricing, bundle pricing, penetration pricing, price lining, value-based pricing, geo and premium pricing. Pricing factors are manufacturing cost, market place, competition, market condition, and quality of product.

- Price skimming is a pricing strategy in which a marketer sets a relatively high price for a product or service at first, then lowers the price over time. It is a temporal version of price discrimination/yield management. It allows the firm to recover its sunk costs quickly before competition steps in and lowers the market price.

- Price skimming is sometimes referred to as riding down the demand curve. The objective of a price skimming strategy is to capture the consumer surplus. If this is done successfully, then theoretically no customer will pay less for the product than the maximum they are willing to pay. In practice, it is almost impossible for a firm to capture all of this surplus.

- Price discrimination or price differentiation exists when sales of identical goods or services are transacted at different prices from the same provider. • Price points are prices at which demand for a given product is supposed to stay relatively high.

- Value-based pricing, or value-optimized pricing is a business strategy. It sets prices primarily, but not exclusively, on the value, perceived or estimated, to the customer rather than on the cost of the product, the market price, competitors' prices, or historical prices. The goal of value-based pricing is to align a price with the value delivered. It is based on the notion that a customer receiving high levels of value will pay a higher price than a customer receiving lower levels of value for the same product or service.

- The profit maximizing level of output is found by equating its marginal revenue with its marginal cost, which is the same profit maximizing condition that a perfectly competitive firm uses to determine its equilibrium level of output. Indeed, the condition that marginal revenue equal marginal cost is used to determine the profit maximizing level of output of every firm, regardless of the market structure in which the firm is operating.

- In order to determine the profit maximizing level of output, the monopolist will need to supplement its information about market demand and prices with data on its costs of production for different levels of output.

- Profit maximization is the short run or long run process by which a firm may determine the price, input and output levels that lead to the highest profit.

- There are several perspectives one can take on this problem.

1. Since profit equals revenue minus cost, one can plot graphically each of the variables revenue and cost as functions of the level of output and find the output level that maximizes the difference (or this can be done with a table of values instead of a graph).

2. If specific functional forms are known for revenue and cost in terms of output, one can use calculus to maximize profit with respect to the output level.

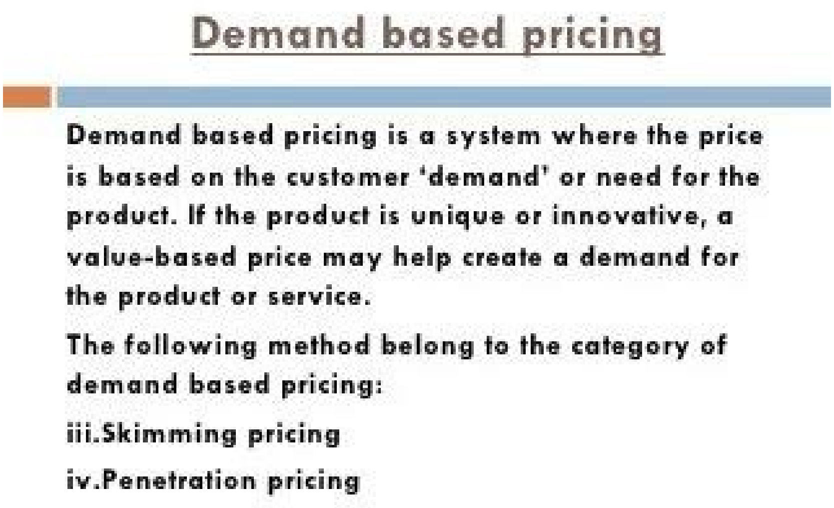
3. Since the first order condition for the optimization equates marginal revenue and marginal cost, if marginal revenue (mr) and marginal cost(mc) functions in terms of output are directly available one can equate these, using either equations or a graph.

4. Rather than a function giving the cost of producing each potential output level, the firm may have input cost functions giving the cost of acquiring any amount of each input, along with a production function showing how much output results from using any combination of input quantities.

- In this case one can use calculus to maximize profit with respect to input usage levels, subject to the input cost functions and the production function. The first order condition for each input equates the marginal revenue product of the input (the increment to revenue from selling the product caused by an increment to the amount of the input used) to the marginal cost of the input.

- For a firm in a perfectly competitive market for its output, the revenue function will simply equal the market price times the quantity produced and sold, whereas for a monopolist, which chooses its level of output simultaneously with its selling price, the revenue function takes into account the fact that higher levels of output require a lower price in order to be sold.

- The principal difference between short-run and long-run profit maximization is that in the long run the quantities of all inputs, including physical capital, are choice variables, while in the short run the amount of capital is predetermined by past investment decisions. In either case there are inputs of labor and raw materials.



Demand based pricing

Demand based pricing is a system where the price is based on the customer 'demand' or need for the product. If the product is unique or innovative, a value-based price may help create a demand for the product or service.

The following method belong to the category of demand based pricing:

iii.Skimming pricing

iv.Penetration pricing

4. Rather than a function giving the cost of producing each potential output level, the firm may have input cost functions giving the cost of acquiring any amount of each input, along with a production function showing how much output results from using any combination of input quantities.

- In this case one can use calculus to maximize profit with respect to input usage levels, subject to the input cost functions and the production function. The first order condition for each input equates the marginal revenue product of the input (the increment to revenue from selling the product caused by an increment to the amount of the input used) to the marginal cost of the input. For a firm in a perfectly competitive market for its output, the revenue function will simply equal the market price times the quantity produced and sold, whereas for a monopolist, which chooses its level of output simultaneously with its selling price, the revenue function takes into account the fact that higher levels of output require a lower price in order to be sold.

APPLY TARGET COSTING IN PRICING DECISION

Definition of target costing

- Target costing – Costing method whereby the selling price reflects the market share.

- In competitive market, the selling price is identified separately from the forecasted cost of the product or service.

- At this point, should the target cost get lower than the forecasted cost, the business will have to reduce the unit cost in order to compete.

- Target costing is a costing technique that allow firms to manage their costs by ascertaining the amount of selling price customers are willing to pay.

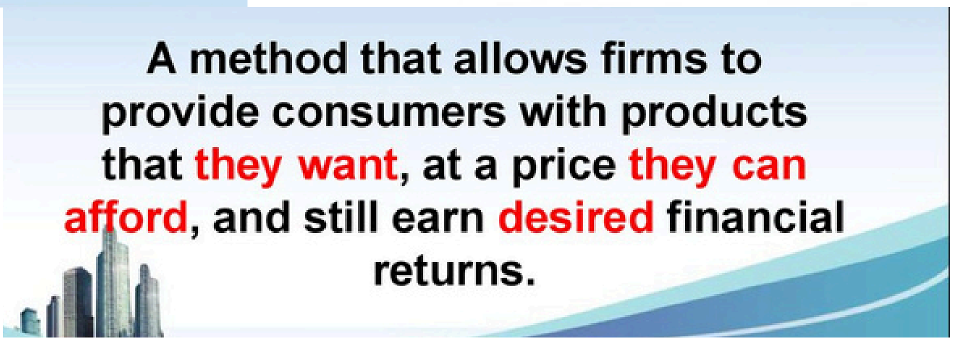
- Then working backwards, the firm will design the product in such a way that the costs meet the requirements of the customers.

- The price is predetermined and the profit element is already considered.

- This cost will produce the level of profitability required based on the expected units to be sold, selling price, usability of the product and its quality.

- Target costing promotes strategies to develop products based on customers' wants, competitors' reactions, availability of resources and the option available in the market.

- Target costing system coordinates three elements; quality, cost and time.



APPLY TARGET COSTING IN PRICING DECISION

Definition of cost gap

- The estimated costs of a product design can be compared with target cost. If the expected cost is higher than target cost then there is a 'Cost Gap'
- The cost gap must be closed by finding ways at the product design stage without losing any of the features, so that target cost is achieved.

Example 3

Ameen Teguh Sdn. Bhd. produces large storage box with selling price of RM45 per box. Due to the economics condition, the company realized that their expected cost increases to RM18.80 for each box, so they increase their profit margin to 70%. You are required to calculate:

a) Target Cost
b) Cost Gap

Suggestion Solution :

a) Target Cost:

Required profit = 70% x RM45
= RM31.50

Target Cost = Selling price per unit – Required profit
= RM45.00 – RM31.50
= RM13.50

b) Cost gap = Expected cost – target cost
= RM18.80 – RM13.50
= RM5.30

BENEFITS AND LIMITATIONS OF TARGET COSTING

- The detailed breakdown of information in target costing provides better perspectives to view options using the ABC method
- The development cycle of product is reduced – because the products are design simultaneously while the resources required are brought together. Various options for minimizing costs are examined and early identification of process is made possible
- Costs can be controlled and monitored before any production cost is incurred which will lead to time and money savings.
- Waste is eliminated and non-value-added activities are reduced with quality improved and processes being simplified. By using ABC method, cost drivers are studied to provide better understanding of processes and resources required. In this way, the business will get better ideas for production design with different cost options.
- The level of profitability for new products and services will rise through the use of target costing, so that cost is reduced without jeopardizing quality. Target costing will also consider the needs of the customers for the new product to be better than existing products

Target cost =
Sale price for the target market – Desired profit

Example 3

An automotive assembly company plans to calculate the target cost for a new van. The selling price is set at RM140,000. The company requires a profit margin 9%.

Suggestion Solution :

Required amount of profit = 9% x RM140,000 = RM12,600

Target cost = RM140,000 – RM12,600 = RM127,400

The target cost gap exists when the target cost exceeds estimated cost. It is uncertain if the cost incurred is the same as that of the target cost. The firm can then benchmark to improve and work within the target by re-examining the resources for cheaper options, replacing materials and adopting more efficient technology to the firm's advantage.

Example 4

M&C is a marker pen manufacturer that operates in a very competitive environment. It sells markerpen to different educational institutions in Malaysia. M&C can only charge RM2 per unit.

a) If the company's intended profit margin is 15% on sales calculate the target cost per unit.

b) If the company's intended profit margin is 15% on cost, calculate the target cost per unit.

Suggestion Solution :

a) Target cost = Selling Price – (Profit % × Selling price)
= RM2 – (15% x RM2)
= RM1.70

b) Target cost = Selling Price ÷ (1 + Profit %)
= RM2 ÷ (1 + 15%)
= RM1.74

COMPREHENSIVE EXERCISE QUESTION

Question 1

Albany has recently spent some time on researching and developing a new product for which they are trying to establish a suitable price. Previously they have used cost plus 20% to set the selling price.

The standard cost per unit has been estimated as follows:

Cost	RM
Direct materials 1 (4kg at RM2.50/kg)	10
Direct materials 2 (1kg at RM7/kg)	7
Direct Labour (2 hours at RM6.50/hour)	13
Fixed overheads (2 hours at RM3.50/hour)	7

Required:
a) Using the standard costs calculate selling price by using Marginal Cost-Plus Pricing and Full Cost Pricing.

b) Explain an advantage and disadvantage of each method.

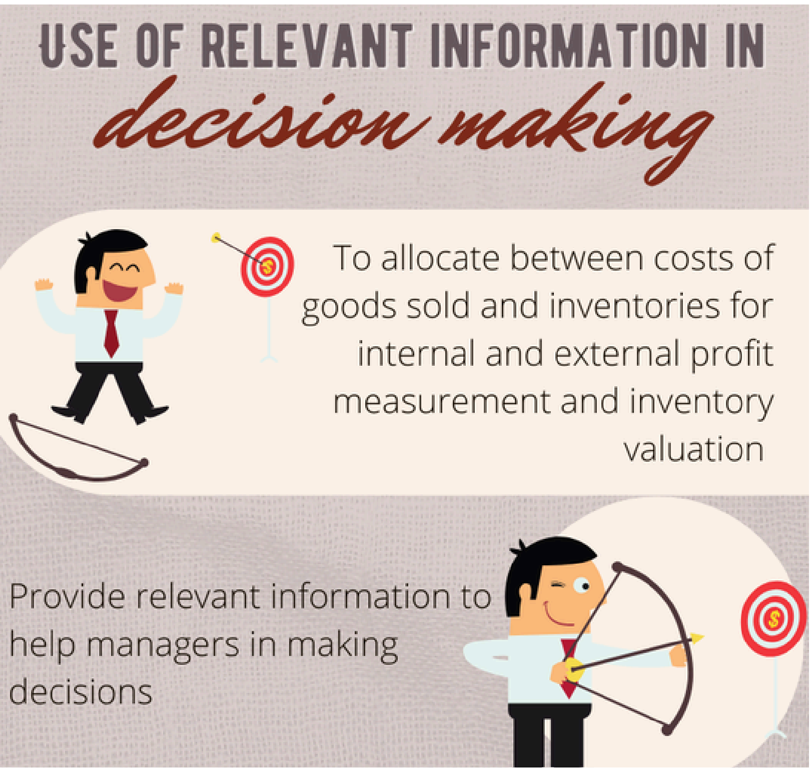
CHAPTER 3 -
RELEVANT COSTS & SHORT TERM DECISION MAKING

- Limited Factors
- Make or Buy
- Special Order
- Continue or Discontinue

RELEVANT INFORMATION IN DECISION MAKING

- The primary role of management accounting is to provide relevant information in a timely manner to the company's management in order to help them plan and control the activities of the organizations and with which optimal and sound decisions can be made.

- For decision making, costs and revenue can be classified according to whether they are relevant to a particular decision. Relevant costs and revenue are those future costs and revenues that will be changed by a decision, whereas irrelevant costs and revenue are those will not be affected by a decision.

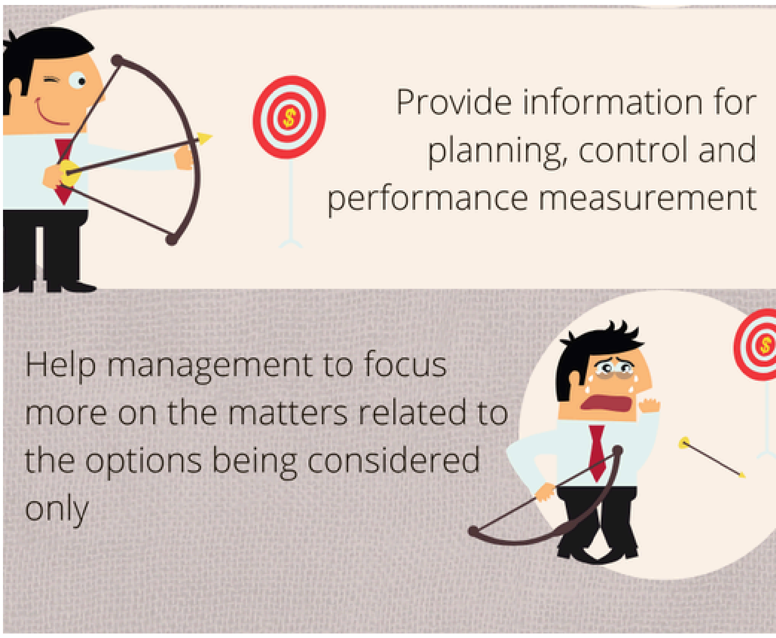


- For example, if you are faced with a choice of making a journey using your own car or a public transport, the car tax and insurance costs are irrelevant, since they will remain the same whether or not you use your car for this journey.

- However, petrol costs for the car will differ depending on which alternative is chosen, and this cost will be relevant for decision making.

- Relevant information is an approach used by management that only considered relevant data in decision-making process.

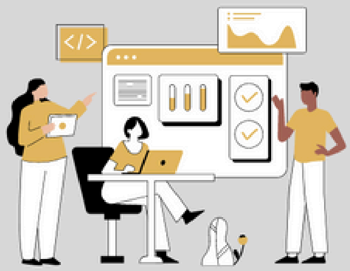
- Relevant data include all data on the options being considered that consists of costs (expected future costs) and revenues (expected future revenues) that differ among alternative courses of action.



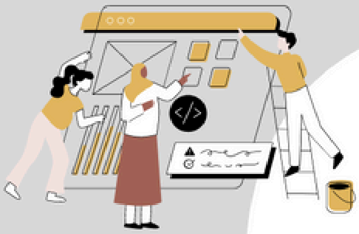
RELEVANT INFORMATION IN DECISION MAKING

STEPS TO APPLY IN DECISION MAKING

(Marginal Costing Approach)

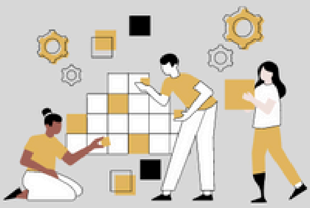


Determine fixed costs (Expected no changes in short period)

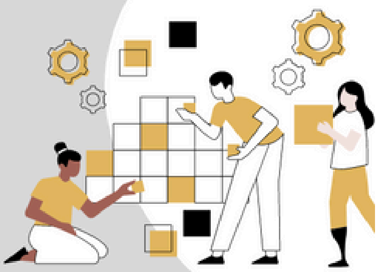


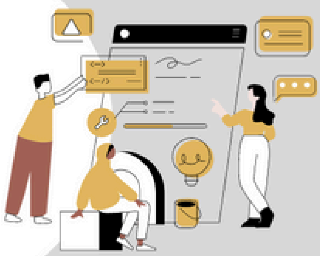
Separate costs which consists of variable costs, semi variable costs and fixed costs

Calculate revenue, marginal cost, and contribution margin for each alternative



If limited factor involved, calculate the contribution per unit limited factor





Choose alternatives that maximize the contribution

THERE ARE FOUR MAIN TYPES OF RELEVANT COSTS

Avoidable

1. Avoidable relevant costs are those where a company can make a different decision to avoid incurring potential additional costs.

Incremental

2. Incremental costs are those that can change over time. This usually relates to the amount of production in progress.

Opportunity

3. Opportunity cost is the value lost by choosing a specific option. For example, you might save money by outsourcing production but could lose additional expertise in certain areas.

Future cash flow

4. Future cash flow is a cost that can occur in the future based on the choices you make today.

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option One @ 1

LIMITING FACTORS (SCARCE RESOURCE)

Refer to the constraints of factors that prevent organizations from indefinite expansion or unlimited profits: e.g : Lack of space, skilled workers

If limited factor identified, the objectives of maximizing the contribution can be achieved by choosing alternatives that maximize the contribution per units of each limited factor

In situations where there is more than one limited factor, linear programming may be used.

Option Two @ 2

MAKE OR BUY

- Consideration whether to make yourself or buy from outside suppliers of a product or component
- Generally, the comparison made between the purchase prices to the marginal cost of production

Option Three @ 3

SPECIAL ORDER

Accept or reject a specific order depends on the existence of unused capacity

Option Four @ 4

CONTINUE OR DISCONTINUE/SHUT DOWN DECISIONS

If a company has several products, one of the products may not be profitable, the company should consider whether to continue or discontinue the production of the products.

Video

Scan Here

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option One @ 1

LIMITING FACTORS (SCARCE RESOURCE)

Example 1

Usaha Jaya Sdn Bhd produces four types of products A1, B2, C3 and D4.Price and cost per unit were as follows:

PRODUCT	A1	B2	C3	D4
Sales price (RM)	42	50	56	52
Direct material (RM)	6	4	12	8
Direct labour (RM)	10	12	12	8
Variable overhead (RM)	6	4	5	6
Fixed overhead (RM)	3	4	5	6
Total costs (RM)	25	24	34	28
Labour hours by product	5	7	6	8
Demand (unit)	300	400	500	800

If each product is limited to 8,600 hours of labour, show the priority output between these four products.

Option One @ 1

LIMITING FACTORS (SCARCE RESOURCE)

Suggestion Solution :

PRODUCT	A1	B2	C3	D4
Sales price (RM)	42	50	56	52
(-) Variable overhead (RM)	(22)	(20)	(29)	(22)
Contribution Margin (CM)	20	30	27	30
Limiting Factor (LF)	5	7	6	8
CM / LF	4.00	4.29	4.5	3.75
Ranking	3	2	1	4

Mix of production:

Allocation hours 8,600 hours

Ranking 1: C3 (500 units x 6) 3,000 hours
Balance 5,600 hours

Ranking 2: B2 (400 units x 7) 2,800 hours
Balance 2,800 hours

Ranking 3: A1 (300 units x 5) 1,500 hours
Balance 1,300 hours

Ranking 4: D4 (163 units) 1,300 hours

Conclusion:

The company can fulfil the production for ranking 1, 2 and 3, and also only 163 units for ranking 4, because the limitation of labour hours.

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option Two @ 2

MAKE OR BUY

Example 2

Unit	10 000	Cost/unit
Direct materials (RM)	30,000	3.00
Direct labour (RM)	50,000	5.00
Factory variable overhead (RM)	15,000	1.50
Factory fixed overhead (RM)	25,000	2.50
Total (RM)	RM120,000	RM12

Components can be purchased from outside supplier with the price of RM13.50 per unit. Suggest the company to purchased or make that components.

Option Two @ 2

MAKE OR BUY

Suggestion Solution :

Cost of production:	**Make**	**Buy**
Direct materials (RM)	3.00	-
Direct labour (RM)	5.00	-
Factory variable overhead (RM)	1.50	-
Purchased price (RM)	-	13.50
Total (RM)	RM 9.50	RM 13.50

Conclusion:
The company should make that components because it is can decrease the cost by RM4.00.

Option Two @ 2

MAKE OR BUY

Example 3

Champion Company have produced and manufactures 20,000 units of Component K-779 for use on production line. The cost per unit of components are as follow:

Items	Cost/unit
Direct materials (RM)	4.50
Direct labour (RM)	6.00
Variable manufacturing overhead (RM)	3.50
Fixed manufacturing overhead (RM)	12.00
Total cost per unit (RM)	**26.00**

An outside supplier has offered to sell 20,000 units of Component K-779 for RM28.00 per unit.

Champion Company has determined that 2/5 of the fixed manufacturing being applied to Component K-779 would continue even if that component were purchased from outside supplier.

Suggest the Champion Company whether to make or buy of Component K-779.

Option Two @ 2

MAKE OR BUY

Suggestion Solution :

Cost of production:	Make	Buy
Direct materials (RM)	4.50	-
Direct labour (RM)	6.00	-
Variable manufacturing overhead (RM)	3.50	-
Fixed manufacturing overhead (RM)	7.20	-
Purchased from outside (RM)	-	28.00
Total cost (RM)	**RM 21.20**	**RM 28.00**

Conclusion:
The company should make the Component K-779 because it is can decrease the cost by RM6.80

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option Three @ 3

SPECIAL ORDER

- the company able to receives an order to produce product which is slightly different from its normal product. If the offer is accepted, the ordinary or normal production will still continue.

Note

- involved how to determine whether to accept or reject the special order. Accept or reject a specific order depends on the existence of unused capacity.

Example 4

Mahamaju Bhd. makes and markets the soft drink sales at RM0.80 per box. Current production is 350,000 boxes represent the 70% capacity of the factory.

Company have an opportunity on the advantage of excess capacity by selling products at a price of RM0.45 a box to a local market.

The total cost of production for the last month is RM47,000 with RM12, 000 are fixed costs and the balance are variable cost.

Based on the above information, suggest Mahamaju Bhd. whether to accept or reject the special order

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option Three @ 3

Suggestion Solution :

SPECIAL ORDER	Accept special order	Reject special order
unit	350,000 + 150,000	350,000
Sales: (350,000 x RM0.80) (150,000 x RM0.45)	280,000 + 67,500 = 347,500	280,000
Variable cost: (RM0.10)	50,000	35,000
Contribution margin	297,500	245,000
Fixed cost	12,000	12,000
Total	**285,500**	**233,000**

Conclusion:
The company should accept the special order because it is can increase the profit by RM52,500

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

CONTINUE OR DISCONTINUE/ SHUT DOWN DECISIONS

Option Four @ 4

A decision to continue or discontinue an old product line or department is called an add-or-drop decision. That must be based only on relevant information. If a company has several products, one of the products may not be profitable, the company should consider whether to continue or discontinue the production of the products.

Example 3

A company is producing three types of products, which each operating cost shows as the following:

	A	B	C	D
Sales	40,000	50,000	42,000	45,000
-) Variable Cost	(12,000)	(32,000)	(22,000)	(32,000)
Contribution margin	28,000	18,000	20,000	13,000
-) Fixed cost	(10,000)	(12,000)	(13,000)	(14,000)
Profit / Loss	18,000	6,000	7,000	(1,000)

Manager decides to discontinue Product D as it showed a loss.
Based on the above information, suggest whether the Product D should be continue

TYPES OF SHORT-TERM DECISION MAKING TO BE CONSIDERED

Option Four @ 4

CONTINUE OR DISCONTINUE / SHUT DOWN DECISIONS

Suggestion Solution :

	Continue	Drop
	(A+B+C+D)	(A+B+C)
Sales	177,000	132,000
-) Variable Cost	(98,000)	(66,000)
Contribution margin	79,000	66,000
-) Fixed cost	(49,000)	(49,000)
Profit / Loss	30,000	17,000

Conclusion:
The company should continue the product D because it is can increase the profit by RM13,000.

Question 1

Based on the information given, determine which product should be produce first:

	Xixi	Yiyi
	RM	RM
Direct material	10	20
Direct labour	5	8
Variable factory overhead	5	8
Sale price	32	50

Review Exercises

Product Xixi need 3 machine hour and product Yiyi need 4 machine hours.

Question 2

Lola Sdn Bhd produced three types of products for local market and planning to mix its production in future. Information on expected sales and production costs were as follows:

	Black	White	Grey
Demand (unit)	1,000	900	1,000
	RM	RM	RM
Sales price per unit	30.00	28.00	25.00
Variable cost per unit :			
Raw material (RM2/kg)	10.00	10.00	8.00
Wages (RM1/hour)	3.00	4.00	2.00
Factory overhead	1.00	0.50	1.50
Fixed cost per unit	10.00	8.00	9.50

The accountant has identified that there were only 10,500 kg of material provided. Below is the information on the current market:

Items	Black	White	Grey
Purchase price per unit from foreign suppliers	RM15.50	RM15.80	RM11.00
Current demand (unit)	1,500	1,000	1,200

You are required to:

a) determine which products should be make or buy
b) determine the production priority by ranking
c) show the maximize company profit

Review Exercises

Question 3

Keling-keling Enterprise produced 4 types of product A, B, C and D. The production data were as follow:

Product	A	B	C	D
Labour hour per unit	4	3	1.5	2
Demand unit	8,000	4,000	12,000	7,000
Costs per unit:	*RM*	*RM*	*RM*	*RM*
Direct material	33.60	25.00	20.00	43.50
Direct labour	24.00	30.00	21.00	15.00
Variable factory overhead	2.40	3.00	1.00	1.50
Fixed factory overhead	16.00	20.00	6.00	10.00
Total costs per unit	76.00	78.00	48.00	70.00
Sales price per unit	84.00	64.00	52.00	74.00

Determine the priority of production if labour hours were limited to 52,000 direct labour hours.

Question 4

Company is able to produce four types of products, and is planning mix the production for the next month.Information on estimated costs, sales, and production are as follows:

	W	X	Y	Z
Maximum demand (unit)	5,000	5,000	5,000	5,000
	RM	*RM*	*RM*	*RM*
Sale price / unit	29	36	61	51
Labour per unit(RM5 / hour)	15	10	35	25
Material per unit (RM1 / kg)	6	18	10	12

Based on the above information, calculate the best of the mix, if:

a) labour hour limited to 50,000 hours month
b) materials limitedto 110,000 kg per month

Review Exercises

Question 5

Zek Sdn Bhd capable of producing three types of products for local market and planning to mix production in future. Information on expected sales and production costs were as follows:

	JJJ	WWW	BBB
Demand(unit)	1,000	900	1,000
Sales price per unit	RM30.00	RM28.00	RM25.00
Variable cost per unit:			
Raw Material(RM2/kg)	10.00	10.00	8.00
Wages(RM1/hour)	3.00	4.00	2.00
Factory Overhead	1.50	1.00	2.00
Fixed Cost per unit	10.00	9.00	10.50

The accountant has identified that there were only 14,600kg and 8,400 hours provided.

You are required to :

a) Determine the production priority by ranking

b) Show the maximize company profit

Question 6

Lala-lala Sdn Bhd plan to produce 3 types of snack namely "Snowy Lite", "Richy Bite" and "Tamarine Delight". Based on a market research by Marketing Executive, these three products can be sold by the following estimated demands.

Product	Snowy Lite	Richy Bite	Tamarine Delight
Estimated sales unit	1,100	2,000	1,800

All products are using the same type of material that is sugar, labour and the same machine. Inventory manager stated that there is 1,000 kg of sugar in the company's storage. Meanwhile, the Human Resource Department stated that currently the company has around 1,800 hours of labour. Meanwhile, the production machine can only be operating up to 600 hours.

Review Exercises

The selling price and the production cost information are as follows:

Product	Snowy Lite	Richy Bite	Tamarine Delight
Material Sugar (RM2/kg)	RM0.25	RM0.30	RM0.50
Labour (RM10/hour)	0.20 hour	0.30 hour	0.50 hour
Machines(RM8/hour)	0.10 hour	0.15 hour	0.20 hour
Selling Price	RM5.50	RM7.30	RM10.00

You are required:

a) Compute the contribution margin per unit of each product.
b) Determine the limited factors or resources
c) Determine the product priority and give explanation on your answer.
d) Calculate the unit to be produced for each product accordance with your answer in above.
e) Identify which product must be given priority if the company is able to overcome scarcity in the company's resources?

Question 7

Below were the cost information to manufacture 50,000 unit of component in a month for Tobby Enterprise. The information were as the followings:

	Cost per unit (RM)
	RM
Raw material	2.80
Direct labour	3.50
Variable factory overhead	1.00
Fixed factory overhead	4.50

Price from an outside supplier is RM10 per unit. If the company decides to buy, factory space can be rented to others at a rate of RM1,000 per month.

What do you think?

Review Exercises

Question 8

CiLi Sdn Bhd requires a component to produce a product. The number of components needed each year was 60,000 units. The costs to manufacture the components in the factory were as follows:

	Total cost a year RM
Raw material	108,000
Direct labour	150,000
Variable factory overhead	96,000
Fixed factory overhead	90,000
Total	444,000

The component can also be purchased from a foreign company at a price of RM6.30 per unit. If the components are purchased, the transportation cost will be borne by CiLi Sdn Bhd amountingRM12,000 and all fixed overheads cannot be avoided. Should the components be purchased or made by CiLi Sdn Bhd?

Question 9

Polly Enterprise produced 350,000 units of product represent the 70% capacity of the factory at a sale price of RM2.00 per unit.

Company have the opportunity to take advantage of the excess capacity by selling product at a price of RM1.30 per unit for foreign market.

The total cost of production for the last month were as follows:

	RM / Unit
Direct material	0.50
Direct Labour	0.50
Variable Factory Overhead	0.20
Fixed Factory Overhead	0.50 (approximate for 400 000 units)
Variable Administration Expenses	0.10
Fixed Administration Expenses	0.20 (approximate for maximum capacity)

Based on the above information, should Polly Enterprise receive the order?

Review Exercises

Question 10

Kira Kira Sdn Bhd is the calculator manufacturer and they are considering expanding their production. In July 2009. MMC Sdn Bhd which is a distributor had asked the company to produce a special order of 3,000 calculators to be sold at overseas. The calculators should be sold under a different brand name and would not influence Kira Kira Sdn Bhd current sales.

Current total production is 8,000 units per year and the maximum capacity to produce calculators is 10,000 units per year. Kira Kira Sdn Bhd would have to reduce the production of units sold under its own brand name by 1,000 units if the special order is accepted. The company's Income Statement for the previous year is presented below.

KiraKira Sdn Bhd

Income Statement For The Year Ended 31 December 2009

		RM	RM
	Sales(8,000 unit)		320,000
(-)	Cost of sales		
	Direct Raw Material	80,000	
	Direct Labour	72,000	
	Manufacturing overhead	64,000	216,000
	Gross Profit		104,000
(-)	Expenses		
	Selling expenses	25,000	
	Administrative expenses	9,600	34,600
	Net Profit		69,400

Review Exercises

Variable manufacturing overhead is RM3.00 per unit and the variable sellingexpenses is RM2.00 per unit. The administrative expenses is complete fixed and would increase by RM2,500 if the special order is accepted.

There is no variable selling expenses if the special order is accepted, but direct labour cost per unit and direct raw material cost per unit will be increased by 5% and 10% respectively. Fixed manufacturing overhead and fixed selling expenses remain unchanged.
You are required to:

a) Determine whether special order should be accepted or rejected if the offered price for special order is RM35.00 per unit.

b) State THREE (3) factors that should be considered in determining whether special order should be accepted or rejected.

Question 11

Below are the information regarding Gembara Company at the level of 80% capacity.

Production Unit per year	80,000
Sales and cost per unit:	**RM**
Sales	20.00
Direct Material	4.50
Direct Labour	2.15
Variable Overhead	
Indirect Material	2.00
Utility	1.50
Fixed Overhead	
Depreciation (At full capacity)	4.20
Insurance (At full capacity)	1.80
Sales & Administration expenses	
Variable	60,000
Fixed	80,000

Next year, Gembara Company expected to receive a special order based on the remaining capacity available. If Syarikat Gembira accepted the special order:

a) Sales Price per unit will be RM12.00
b) Insurance cost will increase 1%
c) Half of the Sales & Administration cost will be borne by Gembara Company
You are required to advise Gembara Company either to accept the special order or not.

Question 12

Syarikat ABC manufacture an electrical instrument named "Ther mostats" which to be sell at a price of RM13.00per unit. Cost involved in producing the "Thermostats" as the followings:

	RM	RM
Sales		1,950,000.00
-less		
Direct Labour	637,500.00	
Direct Material	525,000.00	
Variable Overhead	307,500.00	
Fixed Cost	295,000.00	
Total Cost		1,765,000.00
Net Profit		185,000.00

DEF Company offered ABC Company a contract to buy 50,000 units of the "Thermostats" at a price of RM11.00 per unit. However,the acceptance of the contract will increase to RM15,000. ABC Company also will bear all the 20% overtime costs. As all the direct material will be bought in bulk for the next 50,000 unit, ABC Company will get 5% discount in purchasing the direct material.

Based on the above information, does necessary ABC Company to ACCEPT the special order?
a) Please advise ABC Company.
b) Define the meaning of relevant information in decision making.
a) What steps should be taken in analysis problem using marginal costing?

Review Exercises

Question 13

The following was a report for Tulip biscuits brands for last month:

Biscuit brand	**3SEGI**	**4SEGI**	**5SEGI**	**6SEGI**
Output (tin)	600	500	750	650
	RM	RM	RM	RM
Sales	8,000	3,000	3,690	7,000
Direct material	1,800	2,000	1,125	1,625
Direct labour	1,080	600	900	910
Factory overhead:				
Variable	720	500	675	520
Fixed	540	300	450	455
Fixed Non factory overhead	1600	600	540	1400
Net profit / (loss)	**2,260**	**(1,000)**	**O**	**(2,090)**

As the companyaccountant, you have been assignedto assist the management to analyze the situation and advise management on the decision to continue or discontinue the production of each biscuit brand in the future.

Question 14

Man-3 company have three outlets that sell different types of product with their own brand name, Supar-Man, Speeder-Man and Beck-Man. Below are the information regarding the performance of these three outlets for the coming year:

	Supar-Man	**Speeder-Man**	**Beck-Man**
Sales volume (unit)	60,000	50,000	30,000
	RM	**RM**	**RM**
Sales	300,000	200,000	90,000
Cost of sales	180,000	125,000	66,000
Fixed cost:			
Salary	15,000	12,000	10,000
Insurance	12,000	8,000	7,500
Rental	10,000	9,000	8,500
Rates	5,000	4,500	3,500
General Expenses	2,800	2,600	2,300
Total Cost	224,800	161,100	97,800
Profit/(Loss)	**75,200**	**38,900**	**-7,800**

As the performance of Beck-Man is not satisfactory, the company is considering to close the outlet operation.

Review Exercises

If Beck-Man closed;

i. A total of 40% salary can be avoided.
ii. All rates expenses and 60% of general expenses can be avoided.

Please advise the management either to close or continue the operation of the Beck-Man outlet

Question 15

The management of KINA Bhd is facing some problem in deciding whether to make or buy C21 component. The company currently manufactures 50,000 units of this component per year at the following costs:

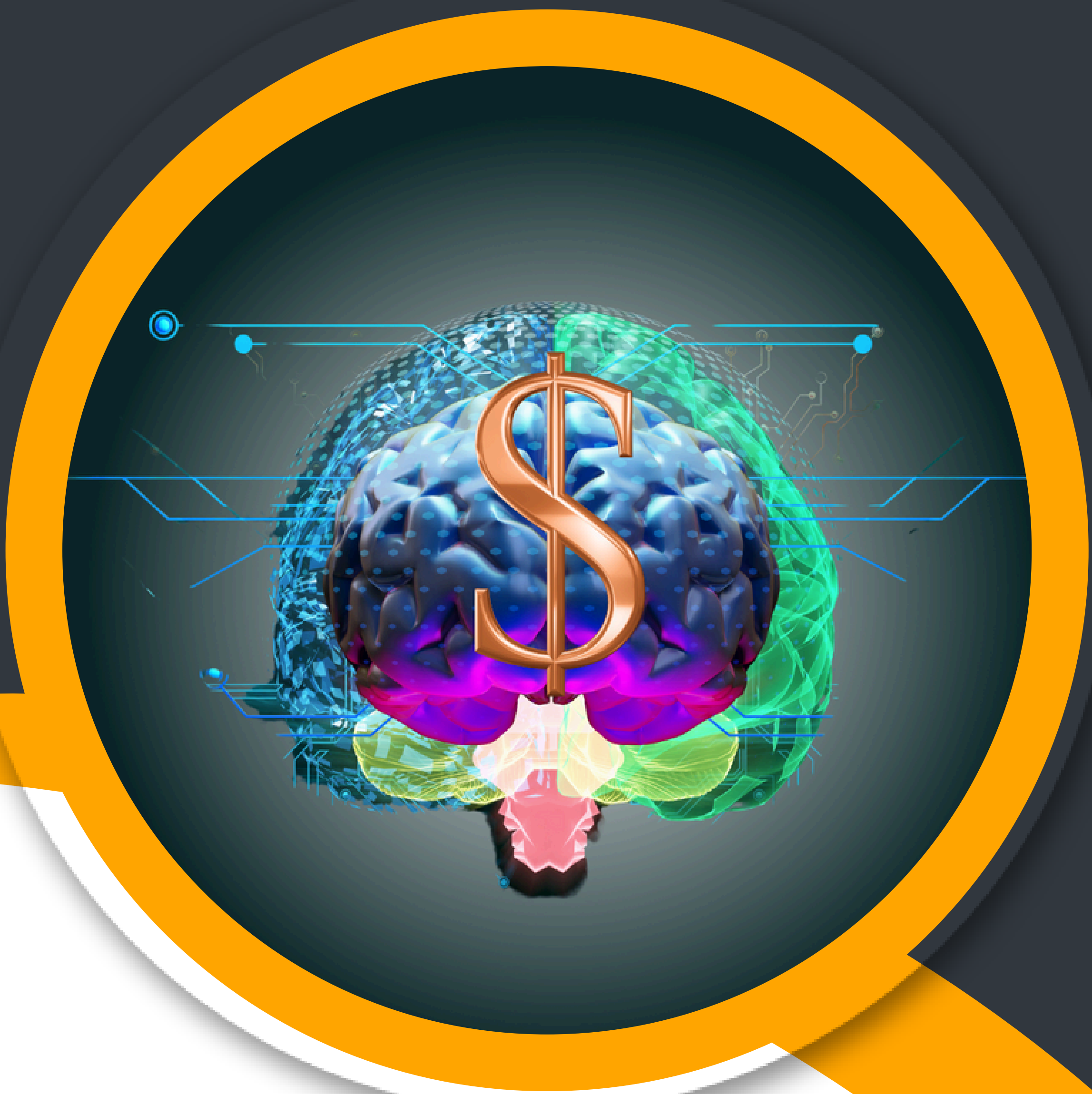
C21 cost/unit

Materials	RM5.00
Labour	RM2.50
Variable Overhead	RM3.50
Fixed Overhead	RM7.00
Total	RM18.00

The fixed Overhead is absorbed based on production hour. The company has received a quotation of RM15.50 per component from outside supplier.

You are required to:

a) State whether the company should buy or continue to manufacture the components. Support your answer with figures based on financial consideration only.
b) List FOUR (4) other quantitative factors that are important in making the decision in answer (a)
c) If it is found that to continue manufacturing C21 component would restrict the output of a new product by 40000 units per an num,state how this would affect the "make or buy" decision. The new selling price of the product is RM20 per unit and its marginal cost is RM11 per unit.



CHAPTER 4 - COST VOLUME PROFIT ANALYSIS

- Limitations of CVP Analysis
- Break-even Point Analysis
- Break-even Point Approaches
- Semi-variable costs

COST VOLUME PROFIT (CVP) ANALYSIS

Cost-volume-profit (CVP) analysis is a way to find out how changes in variable and fixed costs affect a firm's profit. Companies can use CVP to see how many units they need to sell to break even (cover all costs) or reach a certain minimum profit margin.

CVP Analysis?

Cost-volume-profit (CVP) analysis is used to determine how changes in costs and volume affect a company's operating income and net income. In performing this analysis, there are several assumptions made, including:

- Sales price per unit is constant.
- Variable costs per unit are constant.
- Total fixed costs are constant.
- Everything produced is sold.
- Costs are only affected because activity changes.
- If a company sells more than one product, they are sold in the same mix.

CVP?

Cost-Volume-Profit Analysis (CVP analysis), also commonly referred to as Break-Even Analysis, is a way for companies to determine how changes in costs (both variable and fixed) and sales volume affect a company's profit. With this information, companies can better understand overall performance by looking at how many units must be sold to break even or to reach a certain profit threshold or the margin of safety.

Cost-volume-profit (CVP) analysis is used to determine how changes in costs and volume affect a company's operating income and net income.

- CVP analysis is one of the most powerful tools that managers have their command. It helps them understand the relationships among cost, volume and profit by focusing on interactions among the following five (5) elements:

- 1) Prices of products
- 2) Volume or level of activity Cost Volume Profit: break even approach, change in cost and revenue
- 3) Per unit variable costs
- 4) Total fixed costs
- 5) Mix of products sold

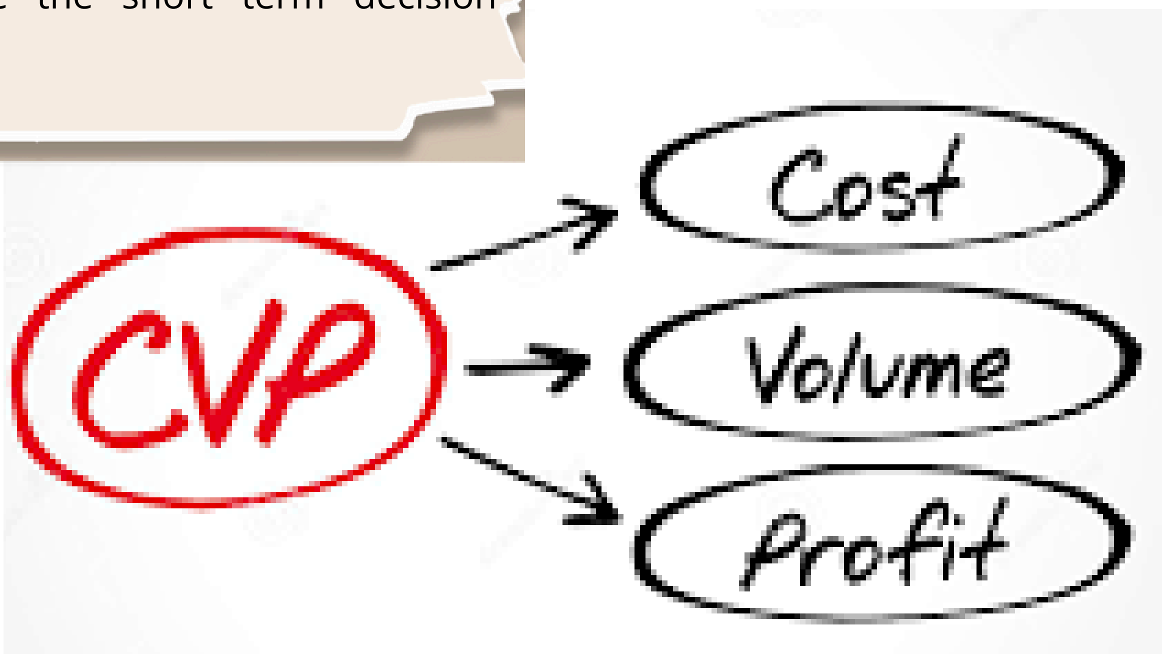
- CVP can be define as a 'systematic model defines the relationship between changes of volume (output) with the changes of sales, expenses and profit'. (ICMA). CVP is a concept or tools in management accounting used by management level in order to derive the short term decision result.

KEY TAKEAWAYS

- Cost-volume-profit (CVP) analysis is a way to find out how changes in variable and fixed costs affect a firm's profit.

- Companies can use CVP to see how many units they need to sell to break even (cover all costs) or reach a certain minimum profit margin.

- CVP analysis makes several assumptions, including that the sales price, fixed, and variable costs per unit are constant.



Assumptions of CVP analysis

Assumptions

CONSTANT VARIABLE COST PER UNIT WITHIN ANALYSIS PERIOD.

THE ANALYSIS APPLIES ONLY TO SHORT-TERM TIME HORIZON.

CONSTANT VARIABLE COST PER UNIT WITHIN ANALYSIS PERIOD.

THE ANALYSIS APPLIES ONLY TO THE RELEVANT RANGE.

NO OPENING AND CLOSING STOCK.

CONSTANT SALES PRICE.

EVERY SINGLE COST CAN BE SEPARATED INTO FIXED COST AND VARIABLE COST.

CHANGES IN VOLUME AND LEVEL OF ACTIVITY WILL NOT AFFECT THE LEVEL OF PRODUCTION OR FIRM'S EFFICIENCIES.

ONLY ONE OF THE FACTOR THAT INFLUENCE COST AND REVENUES IS 'VOLUME'.

LIMITATIONS OF CVP ANALYSIS

It is static tool. Forecast on cost and proceeds of sale made based on assumption no unusual event occurred. This means that event such as changes in government policy and changes in economic condition will be expected not happen.

The assumption that total fixed costs would remain unchanged over the entire range of volume is not valid. This assumption is unrealistic because in actual situation there is no cost which always constant at all production ranges.

It is a short run concept with a limited use in long range planning. This is because any forecast which made on cost and revenue for long term period is very difficult to be done right.

Difficulty in segregation of fixed and variable costs.

Difficult to use in a multi-product company. This analysis only applicable in situation where just one type of product issued. This analysis could not be used in situation where a few type of product produced because cost for each type of product is different

The assumption of constant selling prices and variable costs is not valid. In actual situation, selling price per unit may be forced to reduce to enable larger volume to be sold. So as for the variable cost will be change over period of time

Advantages Of Cost Volume Profit Analysis

Main benefits or advantages of cost volume profit (CVP) analysis can be studied as follows:

DECISION MAKING

CVP analysis helps the management to make sound decision regarding distribution channel, make or buy decision, pricing, production method etc. by showing the relationship between cost, volume and profit.

FAIR PRICING

Cost volume profit (CVP) analysis helps to fix optimum price of the product and services by comparing the competitor's product price.

DETERMINATION OF BREAK EVEN POINT

CVP analysis helps to calculate the break even point at which total revenues are equal to total costs..

DETERMINATION OF MARGIN OF SAFETY

CVP analysis helps to determine the margin of safety (position above the break even point).

PROFIT PLANNING

CVP analysis assists management in profit planning by estimating the profit at different output levels.

COST CONTROL

CVP analysis is an effective tool to control unnecessary production and distribution costs

BUDGETING

Management can prepare budget on the basis of CVP analysis because it provides relevant data and information about cost, volume and profit.

PRODUCT SELECTION

Cost volume profit analysis helps to select the most profitable product by analyzing the relationship between revenues and costs.

BREAK-EVEN POINT (BEP) ANALYSIS

DEFINITION 1

Break-even analysis is a small-business accounting process for determining at what point a company, or a new product or service, will be profitable. It's a financial calculation used to determine the number of products or services you must sell to at least cover your production costs.

DEFINITION 2

The break-even analysis indicates at what level total costs and total revenue are in equilibrium. It is an analytical technique that is used to identify the level of output and sales volume at which the firm 'break-even point' i.e. the revenues are sufficient to cover all costs

BREAK-EVEN POINT (BEP)

DEFINITION 5

Break-even analysis establishes the relationship among fixed and variable costs of production, volume of output, sales value and profit.

DEFINITION 4

In corporate accounting, the breakeven point (BEP) formula is determined by dividing the total fixed costs associated with production by the revenue per individual unit minus the variable costs per unit. In this case, fixed costs refer to those that do not change depending upon the number of units sold. Put differently, the breakeven point is the production level at which total revenues for a product equal total expenses

DEFINITION 3

Break Even Analysis in economics, business, and cost accounting refers to the point in which total cost and total revenue are equal. A break even point analysis is used to determine the number of units or dollars of revenue needed to cover total costs (fixed and variable costs).

BREAK-EVEN POINT (BEP) APPROACHES

Three approaches are commonly used to solvethe BEP problems. They are :

1 GRAPHICAL METHOD OR BREAK-EVEN CHART (BEC)

The BEC shows the relationship of production costs and revenue to the volume of output

2 THE EQUATION METHOD OR MATHEMATICAL APPROACH

a) Contribution Margin (CM)

- CM is the amount remaining from sales revenue after variable expenses have been deducted

b) Unit Contribution Margin

- CM/unit can be used to predict changes in total contribution margin as a result of changes in the unit sales of a product.

3 CONTRIBUTION MARGIN METHOD

a) Contribution Margin Ratio (CM Ratio)

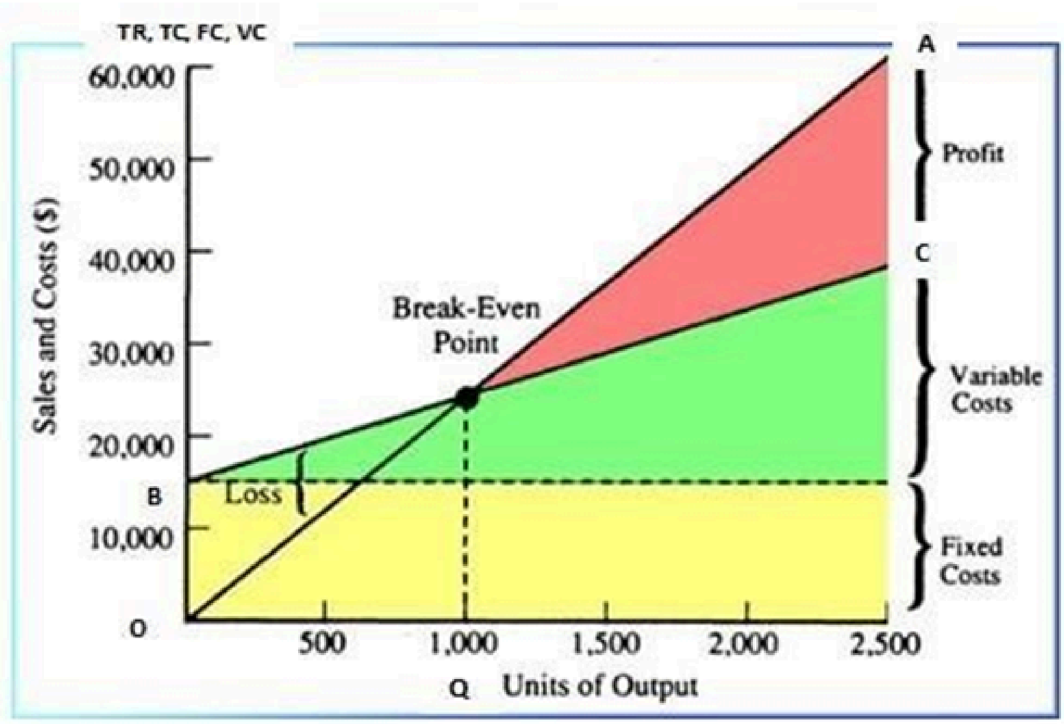
- The percentage of each RM of sales that is available to contribute to net income; calculated as contribution margin per unit divided by unit selling price OR dividing contribution margin by total sales or unit CM by price per unit.

b) Margin of Safety

- can be used to calculate the level of sales which must be attained to avoid less or to calculate the margin of safety (MS)

1 GRAPHICAL METHOD OR BREAK-EVEN CHART (BEC)

- When the BEP is represent graphically, it is shown as the break-even chart. The BEC shows the relationship of production costs and revenue to the volume of output. This relationship is determine by BEP on a graph.



- The BEP is a specific level of output or volume of sales where total revenue and total costs of a firm are equal. It is the point of zero profit. This point is also known as no-profit, no loss or profit beginning point.

- The graph represents a BEC where the level of output is measured along the horizontal axis and revenue and costs on the vertical axis.

- The total revenue curve TR is drawn as a straight line, assuming that every level of output is sold at the same price.

- The fixed cost curve FC is drawn parallel to the horizontal axis.

- The variable costs are assumed as constant so that the total cost curve TC is also linear.

- The point of equality of TR and TC curves is the BEP.

- BEP is the point of no-profit no loss at OQ level of output. When the firm expands its output beyond OQ, it starts making profit.

2 THE EQUATION METHOD OR MATHEMATICAL APPROACH

a) Contribution Margin (CM)

- CM is the amount remaining from sales revenue after variable expenses have been deducted.

- It contributes towardscovering fixed costsand then towardsprofit.

Basic CVP equations:

Profit = TR – TVC – TFC

When
TR = Price x Quantity
TVC = AVC x Quantity

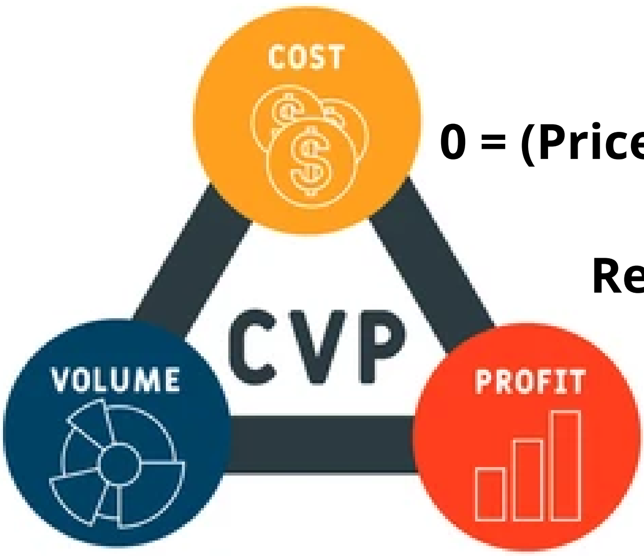
b) Unit Contribution Margin

- CM/unit can be used to predict changes in total contribution margin as a result of changes in the unit sales of a product.

- To do this, the unit contribution margin is simply multiplied by the change in unit sales.

- Assuming no change in fixed costs, the change in total contribution margin falls directlyto the bottom line as a changein profits.

TFC is a constant
BE point is where profit = 0
And
0 = (Price X Quantity) – (AVC X Quantity) – TFC



Rearranging the above equation:

$$\text{BE Quantity} = \frac{\text{TFC}}{\text{Price per unit} - \text{AVC per unit}}$$

FORMULA

1 **CONTRIBUTION MARGIN (CM) =**
Sales – Variable Cost

2 **CM PER UNIT =**
Selling Price per unit – Variable Cost per unit

3 **BEP (UNIT) =**

$$\frac{\text{Total Fixed Cost}}{\text{Contribution Margin per unit}}$$

4 **BEP (RM) =**

$$\frac{\text{Total Fixed Cost}}{\text{Contribution Margin per unit}} \times \text{Selling Price per unit}$$

Briefly elaborate on what you want to discuss.

5 **SALES VOLUME FOR EXPECTED PROFIT (UNIT) =**

$$\frac{\text{(Fixed Cost + Expected Profit)}}{\text{CM per unit}}$$

6 **SALES VOLUME FOR EXPECTED PROFIT (RM) =**

$$\frac{\text{(Fixed Cost + Expected Profit)}}{\text{CM per unit}} \times \text{Selling Price per unit}$$

7 **SALES VOLUME FOR EXPECTED PROFIT AFTER TAX (UNIT) =**

$$\frac{\text{(Fixed Cost + Expected Profit)} \,/\, [1 - \text{Tax Rate}]}{\text{CM per unit}}$$

8 **SALES VOLUME FOR EXPECTED PROFIT AFTER TAX (RM) =**

$$\frac{\text{(Fixed Cost + Expected Profit)} \,/\, [1 - \text{Tax Rate}]}{\text{CM per unit}} \times \text{Selling Price per unit}$$

3 CONTRIBUTION MARGIN METHOD

a) *Contribution Margin Ratio (CM Ratio)*

- The percentage of each RM of sales that is available to contribute to net income;

Calculated as contribution margin per unit divided by unit selling price
OR
Dividing contribution margin by total sales or unit CM by price per unit.

FORMULA :

01

FORMULA 01 : CM RATIO

$$= \frac{\text{CM per unit Selling}}{\text{Price per unit}}$$

02

FORMULA 02 : CM RATIO

$$= \frac{\text{CM}}{\text{Sales}}$$

03

FORMULA 03 : BEP (RM)

$$= \frac{\text{Total Fixed Cost}}{\text{CM Ratio}}$$

04

FORMULA 04 : SALES VOLUME FOREXPECTED PROFIT (RM)

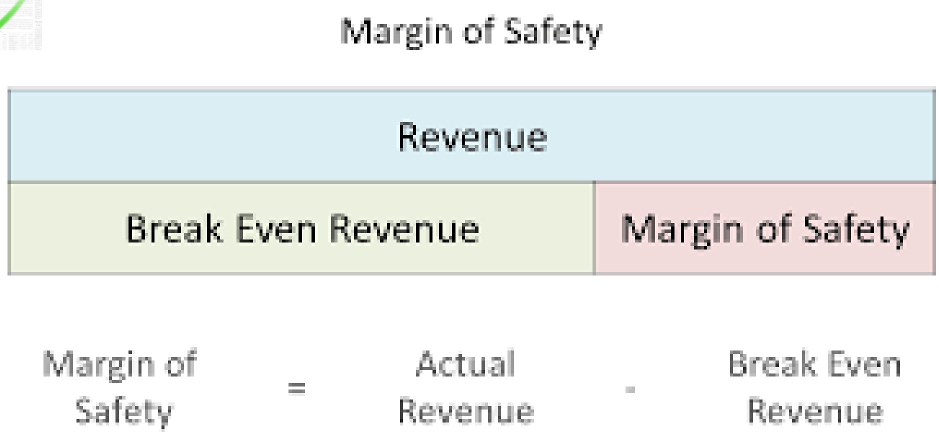
$$= \frac{\text{(Fixed Cost+ Expected Profit)}}{\text{CM Ratio}}$$

05

FORMULA 05 : SALES VOLUME FOR EXPECTED PROFIT AFTER TAX (RM)

$$= \frac{\text{(Fixed Cost+ Expected Profit)} \Big/ \text{[1 – Tax Rate]}}{\text{CM Ratio}}$$

b) Margin of Safety



- can be used to calculate the level of sales which must be attained to avoid less or to calculate the margin of safety (MS).

- MS is the difference between the firm's actual (or budgeted) level of sales and sales at the Break-Even point.

- It states the amount by which sales can drop before losses are incurred. It is expressed as:

Margin of safety = Actual sales (or Budgeted) – Break-even sales

- Nevertheless, firms compute the MS in terms of ratio are:

$$\textbf{MOS} = \frac{\textbf{(Fixed Cost+ Expected Profit)}}{\textbf{CM Ratio}} \times 100\,\%$$

- The MOS is an indicator of the strength of a firm. If the margin is large, it represents that the firm can make profiteven it has to face difficulties.

- On the otherhand, if the margin is small, a small reduction in sales can lead to loss. MOS is nil at the point BE point for the reasons that actual sales volume is equal to the cost.

Example 1

A company produce a type of product and sell it with price RM25 per unit. Variable cost per unit is RM8 and fixed cost was RM50,000 a year.

You are required to calculate:

i) Total unit for BEP
ii) Sales at BEP
iii) Ratio CM/S
iv) How many units have to be sold to get profit RM30,000 per year
v) How much sales that contribute profit RM30,000 per year
vi) Variable cost increasing to RM9.50 per unit and fixed cost increasing to RM65,000. If selling price does not get enhanced, how many units have to be sold to keep annual profit RM40,000.

Suggestion Solution :

i) Total unit for BEP:

$$\frac{\textbf{Total Fixed Cost}}{\textbf{Contribution Margin per unit}}$$

$$= \frac{RM50{,}000}{RM25 - RM8}$$

$$= \frac{RM50{,}000}{RM17}$$

= 2,941 units

ii) Sales at BEP:

= BEP units x Selling price per
= 2,941 units x RM25
= RM73,525

Suggestion Solution :

iii) Ratio CM/S:

= RM17 / RM25 x 100 = 68%

iv) How many units have tobe sold to get profitRM30,000 per year:

Sold unit = $\frac{\text{Fixed cost + Target profit}}{\text{Contribution Margin}}$

= $\frac{\text{RM50,000 + RM30,000}}{\text{RM17}}$

= 4,706 units

v) How much sales that contribute profit RM30,000 per year:

= Sold unit x selling price
= 4,706 x RM25
= RM117,650

vi) Variable cost increasing to RM9.50 per unit and fixed cost increasing to RM65,000. If selling price does not get enhanced, how many units have to be sold to keep annual profit RM40,000.

Suggestion Solution :

Sold unit = $\frac{\text{Fixed cost + Target profit}}{\text{Contribution margin}}$

= $\frac{\text{RM65,000 + RM40,000}}{\text{RM25.00 – RM9.50}}$

= $\frac{\text{RM105,000}}{\text{RM15.50}}$

= 6,774 unit

Example 2

SISS Maju Company produce a type of those products sold at the price of RM28 per unit. Related costs with this product were as follows:

Raw material RM4.20 per unit
Direct wages RM8.00 per unit
Variable overhead RM2.80 per unit

Fixed overhead RM18,000 per year Variable sales and administration expenses RM2.50 per unit Fixed sales and administration expenses RM15,000 per year

You are required to calculate:

i) Break-even point (unit & RM)
ii) Volume to get profit as much as RM45,00 per year
iii) Profit and margin of safety if the company expected to produce volume 5,000 units per year

Suggestion Solution :

i) Break-even point (unit & RM)

$$= \frac{\text{Total Fixed Cost}}{\text{Contribution Margin per unit}}$$

$$= \frac{\text{RM33,000}}{\text{RM28.00 – RM17.50}}$$

$$= \frac{\text{RM33,000}}{\text{RM10.50}}$$

= 3,143 units

ii) Volume to get profit as much as RM45,00 per year

BEP units x Selling price per

= 3,143 x RM28.00

= RM88,004

Suggestion Solution :

iii) Profit and margin of safety if the company expected to produce volume 5,000 units per year

Profit:

5,000 = $\frac{\text{RM33,000 + profit}}{\text{RM10.50}}$

Profit = RM52,500 – RM33,000

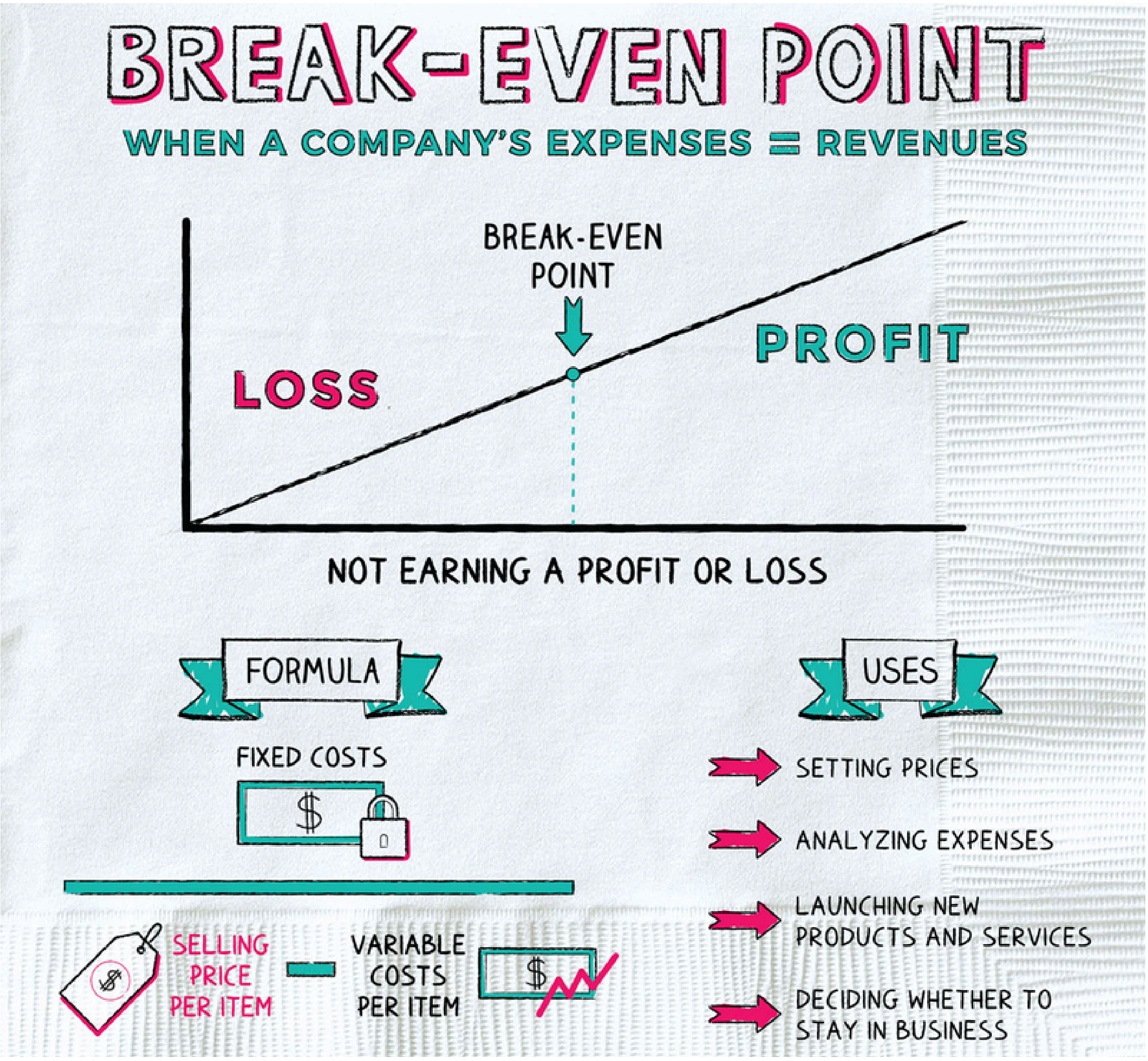
Profit = RM19,500

Margin of Safety (units):

Actual sales (@ budget) – BEP sales
= 5,000 units – 3,143 units
= 1,857 units

Margin of Safety (RM):

Units MOS x Selling price
= 1,857 x RM28.00
= RM51,996



Example 3

Following is the information about Gagah Berjaya Limited:

Sales RM2,800,000
Contribution ratio/sales 35%
Annual fixed cost RM400,000

You are required to calculate:

i) BEP (RM)
ii) Margin of safety
iii) Sales to derive net profit as RM800,000

Suggestion Solution :

i) BEP (RM)

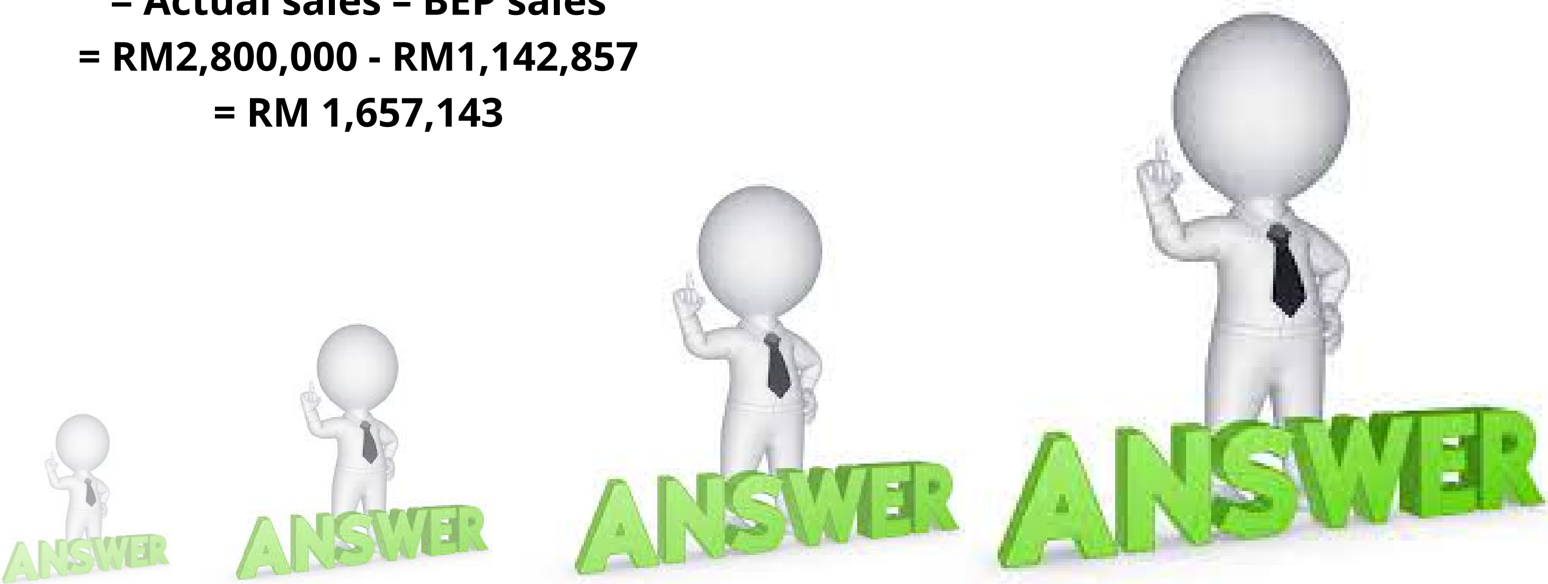
= RM400,000 x 1/35%
= RM 1,142,857

ii) Margin of safety

= Actual sales – BEP sales
= RM2,800,000 - RM1,142,857
= RM 1,657,143

iii) Sales to derive net profit as RM 800,000

= Fixed cost + Target profit x 1/35%
= RM400,000 + RM800,000 x 1/35%
= RM 3,428,571



SEPARATION OF SEMI-VARIABLE COST

Semi-variable costs have features of both fixed costs and variable costs. The fixed portion remains the same, regardless of the activity. But the variable costs rise or fall based on the activity level. Separating out the fixed costs from the variable ones can be used by company managers to plan and control costs.

METHOD

1 Equation method (regression analysis)

2 Graphical method

3 High-low method

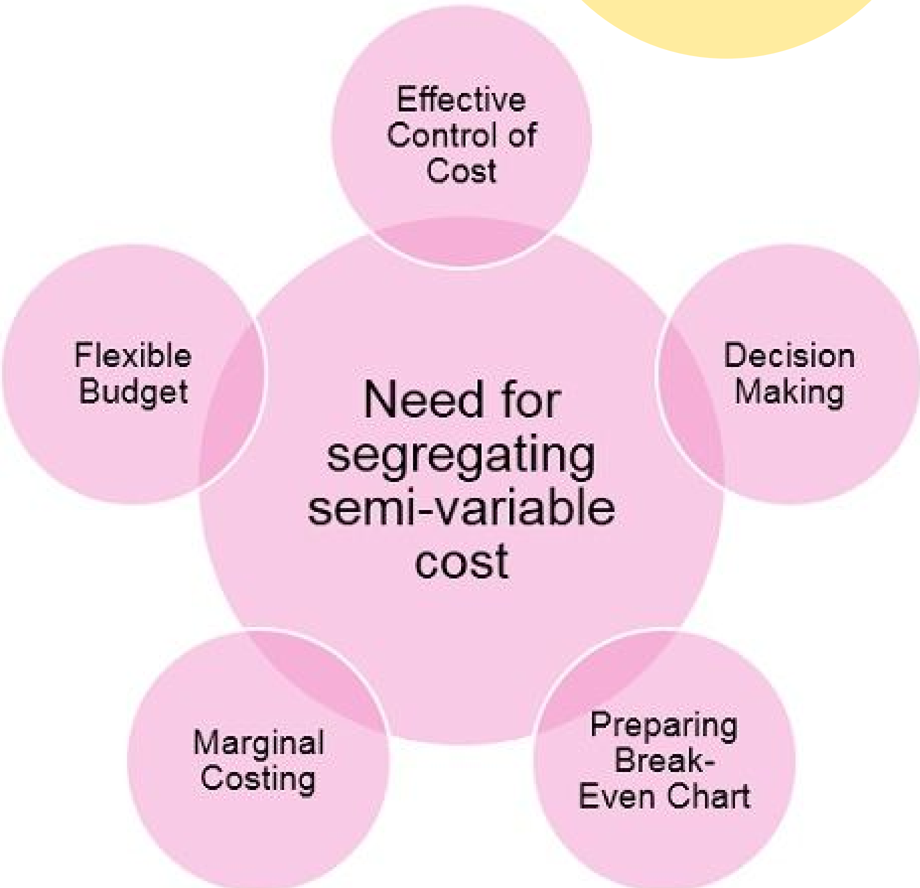
Total cost = Total variable cost + Total fixed cost

OR

by formula
$y = bx + a$

whereby:

y : Total cost
b : Variable cost per production unit
x : Production unit (volume)
a : Total fixed cost



The equation makes it very easy to calculate what the total mixed cost would be for any level of activity within the relevant range. For example, suppose that the company expects to produce1,200 units and company has to pay a fixed cost of RM18,000 and a variable manufacturing cost is RM5.50 per unit.

The total mixed cost would be calculated as follows:

y = a + bx

y = 18,000 + (5.50 x 1,200 units)

y = RM24,600

****** A characteristic of mixed cost that needs to be understood is that we usually have to separate fixed and variable components of the total mixed cost.***

Following is related data with cost in 2 volume production of Syarikat Maju Jaya Bhd:

	Lowest	**Highest**
Total Cost (RM)	**70 000**	**80 000**
Production Volume (unit)	**25 000**	**30 000**

Calculate variable cost per unit and total fixed cost.

Firstly, find the variable cost. We can use that formula for High Low Method:

$$\text{Variable cost} = \frac{\text{Difference in Cost}}{\text{Difference of Units / Quantities / Volumes}}$$

$$= \frac{RM80{,}000 - RM70{,}000}{30{,}000 - 25{,}000}$$

$$= \frac{RM10{,}000}{5{,}000}$$

= RM2.00 / unit

Secondly, find the fixed cost. We can use that formula for High Low Method:

Fixed cost =
Total cost for highest point – (variable rate x highest output)

Or

= Total cost for lowest point – (variable rate x lowest output)

Besides, to get the value for fixed cost, we can use the formula below:

y = a + bx

where:
y = Total cost
a = Fixed cost
b = Variable cost
x = The chosen activity

y = a + bx
RM80,000 = a + (RM2 x 30,000)
a = RM80,000 – RM60,000
a = RM20,000

If the volume is 30,000 unit, so the total cost is:

y = a + bx
y = RM20,000 + RM2(30,000)
y = RM80,000

Review Exercises

Question 1

Following are information relating with cost of the company in two activities level:

Volume	Unit	Cost (RM)
Highest	120,000	216,000
Lowest	55,000	118,500

Use information above to calculate variable cost per unit and fixed cost.

Question 2

Below are the details for Syarikat Mali-lali Bhd.

	2024	2025
Production volume (unit)	45,000 RM	64,000 RM
Production cost:	63,000	89,600
*Material	90,000	128,000
*Direct labour	54,200	69,400
*Overhead	57,300	76,300
*Administration		

Calculate:

1) Variable cost per unit
2) Total fixed cost per year

Question 3

Izara Company process a type of drinks sold in bottle at prices RM5 per bottle. Following particulars is with regard to this production cost and sale of drink estimate for the next year.

Variable cost	RM3 per bottle
Fixed cost per year	RM20,000

Izara Company planning to process and sell as much as 25,000 this drinking bottlein next year.

Calculate:

1) Contribution margin
2) Volume should be made for profit RM40,000per year
3) Profit achieved from volume 46,000bottle per year.

Question 4

Review Exercises

Nora Danish Company makes a type of productat prices RM6 a pack of. Costsand related cost with the product were as follows:

	RM
Variable production cost:	
~ material	0.80/pack
~ direct wages	1.20/pack
~ overhead	0.50/pack
Fixed production cost	4,000/month
Variable administrative	1.50/pack
Fixed administrative	2,000/month

Nora Danish Company planning to process 50,000box in coming year.

Calculate:

a) Contribution margin
b) Volume should be made to seek profit RM60,000per year
c)Profit achieved from volume 60,000boxes per year

Question 5

Hana Delisha Company process a type of stationery sold at the price of RM5.00 per unit. Followingestimate were made for that productfor next 2 year:

	2024	**2025**
Sales unit	22,500 RM 112,500	37,500 RM 187,500
Sales Cost:		
Material	39,000	65,000
Direct wages	27,000	45,000
Overhead	29,000	35,000

Calculate:

a) Total fixed cost per year
b) Volume for BEP
c) Volume for profit RM25,000 per year
d) Profit from volume 40,000 units per year

Question 6

Review
Exercises

Puteri Balqis Company makes and sells a type of chili sauce sold in bottle. Following estimatehas been made for next 2 years:

	2024	2025
Production volume (bottle)	30,000	38,000
	RM	RM
Sales	180,000	228,000
Total cost	128,000	155,200

Required:
a) Volume to seek profit as much as RM32,000per year
b) Profit from volume as much as 45,000 bottle per year
c) Should the company plans to process 60,000 bottle in next year, calculate sales price that should be imposed if the company would like to get profit as much as RM118,000 per year.

Question 7

Unqasha Company process a type of product sold at the price of RM10 per unit. Company production costs to produce the product for next year were as follows:

Production cost:	RM
Material	1.30/unit
Direct wages Overhead:	2.90/unit
~volume 5,000 units	27,000
~volume 6,000 units	28,800
~volume 8,000 units	32,400

Calculate:

a) Total fixed cost per year
b) BEP per year
c) Volume to deriveprofit as much as RM10,000per year
d) Profit for 12,000 units per year
e) If the company wantedto process 10,000units for next year, calculate sales price to get profit as muchas RM17,000 per year

Review Exercises

Question 8

Lissa Company processa type of stationary sold at the price of RM15 per unit. Followingdetails is linked to the product:

Production cost:	RM
Material	2.60/unit
Direct wages	3.80/unit
Overhead:	
~volume 12,000 units	61,400
~volume 15,000 units	68,000
~volume 20,000 units	79,000
Sales & administration expenses:	
~volume 12,000 units	31,800
~volume 15,000 units	36,000
~volume 20,000 units	43,000

Calculate:

a) Volume in unit for BEP
b) Volume to get profit as much as RM50,000
c) Profit from volume24,000 units

CHAPTER 5 - FLEXIBLE BUDGET

- Advantages of Budgeting
- Type of Budgeting
- Technique to Separate the mixed cost
- Limitation of Budgeting

DEFINITION OF BUDGETING

- It is the process of preparing a detailed statement of financial result sthat are expected for a given time period in the future. There are two keywords in that statement.
- The first keyword is **“expected”**. Expected means something that is likely to happen.
- The second keyword is **“future”** which is period in the time to come. So, budgeting is the process of preparing a detailed statement of financial results that are likely to happen in a period in a time to come

Budget?

A budget is an estimation of revenue and expenses over a specified future period of time and is usually compiled and re-evaluated on a periodic basis. Budgets can be made for a person, a group of people, a business, a government, or just about anything else that makes and spends money.

Budgeting?

Budgeting is the process of creating a plan to spend your money. This spending plan is called a budget. Creating this spending plan allows you to determine in advance whether you will have enough money to do the things you need to do or would like to do.

- To manage your monthly expenses, prepare for life's unpredictable events, and be able to afford big-ticket items without going into debt, budgeting is important. Keeping track of how much you earn and spend doesn't have to be drudgery, doesn't require you to be good at math, and doesn't mean you can't buy the things you want. It just means that you'll know where your money goes, you'll have greater control over your finances.

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.

Resource Allocation Tool

- A proper structured budget should derive the amount of cash that will be spun off or which will be needed to support operations. 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.

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.

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 Measurement Tool

- Performance is often evaluated by measuring success in meeting the budgets. The budget thus provides a useful means of informing managers of how well they are performing in meeting targets that they previously helped to set.

ADVANTAGES OF BUDGETING

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.

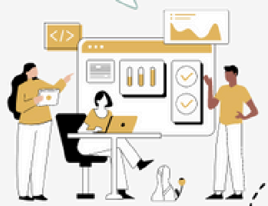
Why is Budgeting so Important?

Since budgeting allows you to create a spending plan for your money, it ensures that you will always have enough money for the things you need and the things that are important to you. Following a budget or spending plan will also keep you out of debt or help you work your way out of debt if you are currently in debt.

ADVANTAGES OF BUDGETING :

PLANNING TOOL

Annual budgeting process leads to the refinement of long-term planning process. The budgeting process ensure that managers do plan for future operations and that they consider how condition in the next year might change and what steps they should take now to respond to these changed conditions.

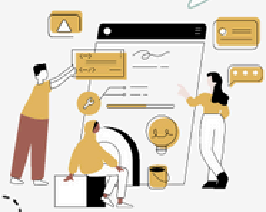


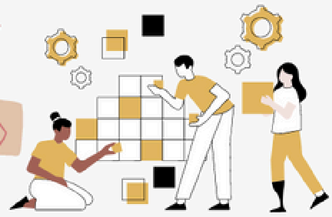
COMMUNICATION TOOL FOR THE WHOLE ORGANIZATION

Everyone in the organization should have a clear understanding of the part they are expected to play in achieving the annual budget. This process will ensure that the appropriate individuals are made accountable for implementing the budget.

RESOURCE ALLOCATION TOOL

A proper structured budget should derive the amount of cash that will be spun off or which will be needed to support operations. 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





PERFORMANCE MEASUREMENT TOOL

Performance is often evaluated by measuring success in meeting the budgets. The budget thus provides a useful means of informing managers of how well they are performing in meeting targets that they previously helped to set.

TYPES OF BUDGETING

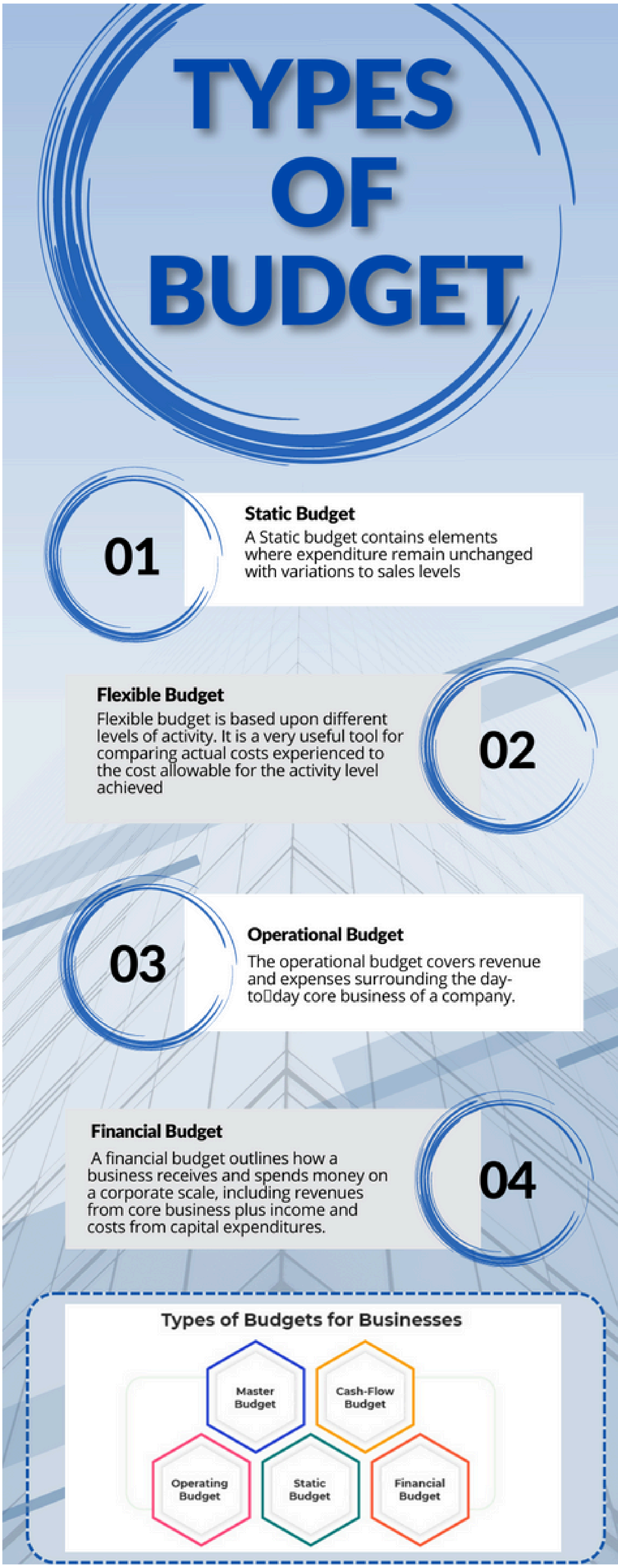
Financial Budget

- A financial budget outlines how a business receives and spends money on a corporate scale, including revenues from core business plus income and costs from capital expenditures. Managing assets such as property, buildings, investments and major equipment may have a significant effect on the financial health of a company, particularly through the peaks and troughs of daily business. Executive managers use financial budgets to leverage financing and value the company for mergers and public offerings of stock

Flexible Budget

- Flexible budget is based upon different levels of activity. It is a very useful tool for comparing actual costs experienced to the cost allowable for the activity level achieved, i.e. it is dynamic in nature as compared to static.

- A series of budgets can be readily developed to fit any activity level. Flexible budgeting distinguishes between fixed and variable cost, thereby allowing for a budget that can be automatically adjusted to the level of activity actually attained.



DIFFERENCES BETWEEN STATIC AND FLEXIBLE BUDGET

Static Budget		Flexible Budget
Does not change with the actual volume of the output achieved	Nature	Is designed to change appropriately with the level of activity attained
Cannot ascertain costs correctly in case of any change in circumstances	scope	Can easily ascertain costs in different levels of activities
Is prepared under the assumption that all conditions will remain unaltered	Determination of Cost	Is prepared at different levels of activities considering the possible changes in the operational aspect of a business
Static budget has a limited application and is ineffective as a tool for cost control	Assumptions	Has a wide application as an effective tool for cost control
pls prepared without classifying the costs according to their variable nature	Pre-requisites	Is prepared by classifying the costs according to their variable nature

TECHNIQUE TO SEPARATE THE MIXED COST

HIGH LOW METHOD

High low method is one of the several techniques used to split a mixed cost into its fixed and variable components.

Formula :

y = a + bx

 # Total cost (y)
 # Variable cost per unit (b)
 # Total fixed cost (a)

Where :

y = Total cost
a = Fixed cost
b = Variable cost
x = The chosen activity

Variable cost (b)

$$\frac{\text{Difference of Cost}}{\text{Difference of Units/Quantities/Volumes}}$$

Fixed cost (a)

= Total cost for highest point – (variable rate x highest output)

Or

= Total cost for lowest point – (variable rate x lowest output)

Example 1

Following data show production and total cost for Syarikat Gayah TikTok in the highest point and lowest point:

	Lowest	Highest
Total Cost (RM)	40,000	120,000
Production Volume (unit)	6,000	56,000

You are required to :
calculate variable cost per unit and total fixed cost.

Variable cost (b)

$$= \frac{\text{Difference of Cost}}{\text{Difference of Units/Quantities/Volumes}}$$

Suggestion Solution :

Variable cost (b)

$$= \frac{RM120,000 - RM40,000}{56,000 \text{ units} - 6,000 \text{ units}}$$

$$= \frac{RM\ 80,000}{50,000 \text{ units}}$$

$$= \textbf{RM1.60 per unit}$$

Fixed cost (a)

= Total cost for highest point – (variable rate x highest output)

OR

= Total cost for lowest point – (variable rate x lowest output)

Fixed cost using higher point:

RM120,000 = a + RM1.60 (56,000)
RM120,000 = a + RM89,600
a = RM120,000 - RM89,600
a = RM30,400

OR

Fixed cost using lowers point:

RM40,000 = a + RM1.60 (6,000)
RM40,000 = a + RM9,600
a = RM40,000 - RM9,600
a = RM30,400

Example 2

Following is a fixed budget for Syarikat Hikmah Maju for the year 2023:

Production volume = 1 000 units

Variable Overhead:	RM
Indirect Labour	4 500
Indirect Material	8 000
Heating & Rate	1 500
Power & Electricity	1 700
Indirect expenses	2 000

Fixed Overhead :	RM
Rental	3 500
Insurance	4 200
Depreciation	6 000
Indirect Labour	2 500

The budgeted selling price per unit is RM45.00

You are required to :

Prepare a Flexible Budget for activity :

10 000 units
12 000 units
15 000 units.

PERFORMANCE REPORT

COMPARATIVE FIGURE BETWEEN ACTUAL COST AND BUDGETED AMOUNT

Flexible budget use to help organization in evaluating performance more precisely and fair because actual activity can be compared with activity planned. One of the ways in evaluating actual performance in a business is by providing performance report budget.

Format of Performance Report

Item	Budget	Actual	Variance
Level of activities (unit)	xx	xx	xx
	RM	RM	RM
Sales	xx	xx	xx
(Less) Variable Cost	xx	xx	xx
Contribution margin	xx	xx	xx
(Less) Fixed Cost	xx	xx	xx
Total Cost	xx	xx	xx
Net Profit/Net (Loss)	xx	xx	xx

Variance column showing differences between actual activity performances with budgeted activity performances.

'Good' or 'Favourable' (F) → actual performance is more efficient

"Not Good' or 'Unfavourable' (UF) → actual performance is less efficient

Suggestion Solution :

Syarikat Hikmah Maju
Flexibel Budget for the year 2023

Unit production	**10 000 units**	**12 000 units**	**15 000 units**
	RM	**RM**	**RM**
Sales (RM45.00)	450 000	540 000	675 000
Minus) Variable cost:			
Indirect Material (RM6.00)	60 000	72 000	90 000
Indirect Labour (RM4.50)	45 000	54 000	67 500
Indirect expenses (RM2.00)	20 000	24 000	30 000
Heating & rate (RM1.50)	15 000	18 000	22 500
Power & electricity (RM1.70)	17 000	20 400	25 500
Total variable cost	157 000	188 400	235 500
Contribution Margin	**293 000**	**351 600**	**439 500**
Minus) Fixed cost:			
Indirect Labour	2 500	2 500	2 500
Depreciation	6 000	6 000	6 000
Insurance	4 200	4 200	4 200
Rental	3 500	3 500	3 500
Total Fixed cost	16 200	16 200	16 200
Profit / Loss	**276 000**	**335 400**	**423 300**

Example 3

Performance Report Statement of Syarikat Sya For The Month of September 2023

Type Cost	Budget	Actual	Variance
Direct material	10 000	12 200	2 200 (F}
Direct labour	7 000	9 250	2 250 (F)
Direct expenses	5 600	7 500	1 900 (F)
Production overhead	4 000	5 500	1 500 (F)
Total Variable Cost	26 600	34 450	7 850 (F)
Contribution Margin	63 400	85 550	22 150 (F)
Rent & rate	2 000	2 200	200 (F)
Water & electricity	2 800	2 700	100 (F)
Insurance	3 500	3 800	300 (F)
Total Fixed overhead:	8 300	8 700	400 (F)
Profit / Loss	55 100	76 850	21 750 (F)

Item	Budget	Actual	Variance
Sales	RM 90 000	RM 120 000	RM 30 000 (F)
Production unit	2 000 UNIT	2 500 UNIT	500 UNIT

You are required:

Prepare Performance report for Syarikat Sya

Suggestion Solution :

Performance Report Statement of Syarikat Sya For The Month of September 2023

Type Cost	Budget	Actual	Variance
Production unit	2 500	2 500	-
	RM	RM	RM
Sales (RM45.00)	112 500	120 000	7 500 (F)
Direct material (RM 5)	12 500	12 200	300 (F}
Direct labour (RM 3.50)	8 750	9 250	500 (UF)
Direct expenses ()RM 2.80)	7 000	7 500	500 (UF)
Production overhead (RM 2)	5 000	5 500	500 (UF)
Total Variable Cost	33 250	34 450	1 200 (UF)
Contribution Margin	**79 250**	**85 550**	**6 300 (F)**
Rent & rate	2 000	2 200	200 (UF)
Water & electricity	2 800	2 700	100 (UF)
Insurance	3 500	3 800	300 (UF)
Total Fixed overhead:	8 300	8 700	400 (UF)
Profit / Loss	**70 950**	**76 850**	**5 900 (F)**

LIMITATION OF BUDGETING

Limitation of Fixed Cost

- It is often difficult to find any direct relationship between the cost and product. Fixed costs may be allocated based on the ability of the department, unit or input's ability to bear the cost; for instance, a company may allocate a large portion of its fixed costs to highly profitable division while allocating a proportionately smaller portion to a marginally profitable division.

- This result in a skewed view of a division or product's true financial productivity. Unless fixed costs are allocated properly, the resulting information may lead management to make faulty decisions based on erroneous assumptions.

Limitation of Variable Cost

- Difficulty in segregation overhead cost into fixed and variable cost

- It is not justifiable to exclude fixed manufacturing overhead from inventories

- Variable costing is not useful for long-term planning and decision making

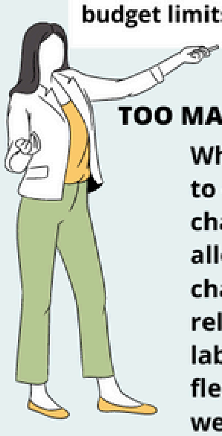
- Variable costing is not acceptable for external reporting purpose

LIMITATION OF SEMI-VARIABLE COST

A semi-variable cost has characteristic of both fixed costs and variable cost once a specific level of output is surpassed. It remain fixed up to particular production volume.

MAKES PREDICTION DIFFICULT

Perhaps the main disadvantages of a flexible budget is that, by not allowing the manager to insert set figures, prediction is difficult. Instead of looking at an estimate of what to expect financially, the manager is left looking at a range of estimates. Because his decision-making may be different if the number is at one end of the range than if it's at the other, a flexible budget limits his ability to plan.



TOO MANY VARIABLES

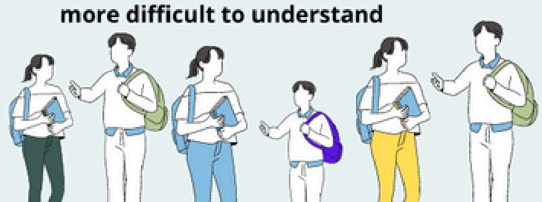
When one variable in a flexible budget is subject to change, other variables in the budget can also change too. For example, if a flexible budget allows for changes in the volume of sales, then changes in sales will change the budget for related costs, such as upkeep of equipment and labor. So, even if there is only a single variable in flexible budget, other items may be left opaque well.

CANNOT ESTIMATE TAXES

One of the main downsides to flexible budgets is that it makes the estimate of an organization's tax burden tough. Many organizations make estimated tax payments, in which they pay money to tax collecting agencies on a quarterly basis instead of at the end of the year, so as to avoid interest payments. Not being able to estimate how much the company will earn makes it extremely difficult to set aside an appropriate amount of tax money.

COMPLICATED

Because flexible budget required the prepare to insert a range of estimates, the budget may be more complicated and take longer to prepare than a static budget. A static budget requires simple arithmetic, and a flexible budget requires algebra. In many cases, flexible budgets may not just take more time to put together, but be more difficult to understand



Review Exercises

Question 1

Below are the information given by Syarikat Zizang Sdn. Bhd.:

Level of activities (unit)	4,000	5,000	6,000
	RM	RM	RM
Material	20,000	25,000	30,000
Labour	12,000	15,000	18,000
Production overhead	10,000	12,000	14,000
Administration overhead	8,000	8,000	8,000
Sale and distribution overhead	10,000	10,000	10,000
Total Cost	60,000	70,000	80,000

If activity level exceeding 6,000 units, additional fixed cost for production was RM2,000; sale and distribution was RM1,000 and administration was RM500.

Prepare Flexible Budget for activity level for production level 3,000; 6,500 and 8,000 units.

Question 2

Cost and activity information for Syarikat Aron Sdn. Bhd. were as follows (levels of activity referring to highest and lowest levelwhich recorded during operation last year):

Level of activities (unit)	10,000	15,000
	RM	RM
Salary	125,000	125,000
Supply	90,000	120,000
Utility	80,000	100,000
Insurance	30,000	30,000
Miscellaneous	50,000	65,000

REQUIRED:

(a) Company can achieve level of activity 13,000 unit to the next year and actual cost involved were as follows:

	Total Cost	Variable Cost
	RM	RM
Salary	135,000	-
Supply	126,000	7.00
Utility	105,000	5.00
Insurance	24,000	-
Miscellaneous	50,000	3.00

Prepare performance report for Syarikat Aron Sdn. Bhd.

Review Exercises

Question 3

Syarikat Eman use flexible budget to evaluate their performance. Basically, this budget use hour basis labour to calculate product overhead. The complete information company production overhead were as follows:

	Fixed Cost (RM)	Variable Cost per direct labour hour (RM)
Indirect labour	9,000	1.05
Supply	12,000	0.80
Utility	7,500	0.65
Depreciation	18,000	-
Maintenance	5,500	0.30

In year 2024, company had recorded20,000 standard labour hour. Actual labour hour was 15,000 hour. Actual costs involved were as follows:

	Variable Cost (RM)	Fixed Cost (RM)
Indirect labour	10,000	8,000
Supply	11,500	13,000
Utility	9,000	10,000
Depreciation	-	15,000
Maintenance	7,500	7,000

REQUIRED:

(a) Prepare flexible budget for overhead cost production in three level of activities which are 14,000; 15,000 and 16,000 direct labour hour
(b) Performance report for year ended 2024.

Question 4

Review Exercises

Below is a flexible budget provided for Syarikat Arni for coming year:

Volume (unit)	40,000	50,000
	RM	RM
Sales	280,000	350,000
(Less):		
Material	60,000	75,000
Direct labour	88,000	110,000
Salary	16,000	20,000
Water & electricity	7,000	8,000
Insurance	4,500	4,500
Power	9,600	12,000
Machine depreciation	10,000	10,000
Transportation cost	2,000	2,500
Machine maintenance	7,500	9,000
Others cost	3,500	3,500
Net Profit	69,900	95,500

Additional information:

1) Salary: An employee needed for each 5,000 units processed. An employee paid RM2,000 a year.
2) Water and electricity: RM3,000 a year increase 10 cent for per unit processed.
3) Power: RM1.20 every machine hour. Machine hour can process 5 units.
4) Machine: Present company having an old machine. Processing capacity of 50,000 units a year. To process more than 50,000 unit a year, an additional machine should bought. This machine can be bought at price RM30,000 and have the capacity to process 30,000 unit a year. This new machinery can be used for 5 year period and will not have any scrap value. As old machine, new machinery can process 5 units for each machine hour.
5) Machine maintenance expenses: RM4,500 for 4,000 first work hour used within the period of a year and will be rising as much as RM1,500 for each 2,000 additional machine hour.
6) Transportation cost: RM500 for each 10,000 units.

REQUIRED:
Prepare Flexible Budget for volume 70,000 units and 80,000 units.

Question 5

Review Exercises

Syarikat yellow Shawl produces and sell silk shawl. Shawl issued use material cloth from same type and size. The company used to change the pattern according to buyer's demand. The company have maximum capacity 100,000 units a year. Products of the company are marketed through whole saler nation wide.

Selling price in current year was RM8.00 per unit. In year 2025, selling price will be increased as much as 20% because raw material prices expected to rise 15%. The company should not increase price more than 20% because strong competition factor.

Following particulars are operating cost in production for level 50,000 units and 40,000units:

	Production Level	
Item	50,000 units (RM)	40,000 units (RM)
Raw material	150,000	120,000
Labour	65,000	55,000
Utility	25,000	24,800
Maintenance and repair	32,500	32,000
Sales and marketing	43,800	39,600
Insurance	25,000	25,000
Administration	30,000	30,000
Property Tax	12,000	12,000
Depreciation	25,000	25,000

In production level 65,000 units on, fixed cost for certain items will be rising like those following:

Item	Percentage Increase (%)
Labour	15
Utility	2
Maintenance and repair	10
Sales and marketing	6
Administration	12
Depreciation	5

Direct labour expected going to call for increase in wage rate as much as 20% for year 2024. Management expected that Trade Union will get the company offer to raise up rate direct labour wage as much as 10%.

REQUIRED:

Prepare Flexible Budget for production level 60% and 70% from company's capability. This budget should show MARGIN and NET PROFIT.

Review Exercises

Question 6

Syarikat Amani a manufacturing company which sells timber products. Unit sale price for the product was RM30 per unit. Company's productions for last three years were 40,000 units and 60,000 units a year. Expected cost at levels 40,000 product units were as follows:

	RM
Direct material cost	5/unit
Direct labour cost	4/unit
Overhead (70% variable)	100,000
Sales and distribution cost (60% variable)	40,000
Administration expenses (fixed)	30,000

Refer to information above, PREPARE:

(a) Fixed budget in level 40,000product units and sales

(b) Flexible budget at levels 50,000;55,000 and 60,000product units and sales

Following is the income statement summary company for the last period:

Unit sales		55,000
	RM	RM
Total sales		1,430,000
(Less) Variable cost:		
Direct material	247,500	
Direct labour	192,500	
Overhead	99,000	
Sales and distribution cost	38,500	
Total Variable Cost		577,500
MARGIN		852,500
(Less) Fixed cost		
Overhead	33,000	
Sales and distribution cost	15,000	
Administration cost	28,000	
Total Fixed Cost		76,000
NET PROFIT		776,500

REQUIRED:

Prepare Performance Report and shows clearlywhether variances exist are favourable (F) or Unfavourable (UF)

Review Exercises

Question 7

Syarikat Nazirah Sdn. Bhd. use fixed budget to determine company's overhead costing year 2010, activity expected for deparment A was 30,000 units. Following data prepared for department A for the period.

	Jabatan A	
	Actual	Budget
Unit Produce	27,000	30,000
	RM	RM
Variable OH:		
Direct material	25,000	24,900
Direct labour	15,000	15,300
Carriage cost	9,100	9,000
Maintenance	11,200	11,100
Total	60,300	60,300

Management satisfied with corporate performance overall but you think otherwise. Convince management on your stance by providing:

(a) Flexible budget at level 27,000units

(b) Performance report for the year 2008 by showing variance

Question 8

Keling-keling Company prepared static report of budget (still) for year ended 31 December 2010 as follows:

	Budget	Actual	Variance
Unit produce	42,000	44,400	2,400 (F)
	RM	RM	RM
Direct material	273,000	296,148	23,148 (UF)
Direct labour	346,500	364,524	18,024 (UF)
Variable overhead:			
Indirect labour	68,040	75,036	6,996 (UF)
Supply	23,940	22,200	1,740 (F)
Repair	13,860	15,984	2,124 (UF)
Total Variable OH	105,840	113,220	7,380 (UF)
Fixed cost:			
Insurance	4,800	5,040	240 (UF)
Rental	14,400	14,400	-
Depreciation	12,000	12,000	-
Supervisor salary	25,200	25,800	600 (UF)
Total Fixed Cost	56,400	57,240	840 (UF)
Total Fixed OH	162,240	170,460	8,220 (UF)
TOTAL COST	781,740	831,132	49,392 (UF)

Review Exercises

(a) You are required to replace the static performance report above to Performance Report.

(b) Mr. Milton, manager who was responsible to the production cost believe that static budget performance report are best suited to measure cost applied while Executive Chief, Mr. Elly think on the other hand. In your opinion, which performance report was best measure?

Question 9

The information given below is regarding Syarikat Lato-lato Bhd. for the year ended 2025.

i. 100% activity is in conjunction with 60,000 directlabour hour
ii. Wages rate per direct labour hour was RM4.00
iii. Variable cost consisting of:
   1) Indirect labour 50% for each direct labourhour
   2) Consumables raw materialis 25 cent for each direct labourhour
   3) Canteen cost 5% from directand indirect labourcost
iv. Semi-variable cost linked to direct labour hour and indirect labour hour as follows:

Direct Labour Hour	Semi-Variable Cost (RM)
40,000 – 45,000	6,010
45,001 – 50,000	6,528
50,001 – 55,000	7,344
55,001 – 60,000	8,160

v. Total Fixed Cost is RM89,000

REQUIRED:

(a)You are required to provide flexible budget for company in level of activity of 80%, 90% and 100%.

(b) In year 2025 actualproduction was at level 80% with costs as follows:

	RM
Direct labour	202,000
Indirect labour	90,000
Raw material	14,000
Canteen cost	14,000
Semi variable cost	6,200
Fixed cost	92,000

Prepare Performance Report for Syarikat Laptop DELL Bhd. for the year ended 2025.

CHAPTER 6 - VARIANCE ANALYSIS

- Prepare Variance Analysis,
- Direct Labour Cost Variances,
- Fixed Production Overhead Variance
- Typical Couse of Variance

INTRODUCTION

Planning and control is one of the major aims of a standard costing system, whereby standards are compared with actual results to arrive at variances. In controlling the operations of business, managers would always want to know how effectively and efficiently the business is being operated. To achieve this end, actual performance is compared to an expected performance. Standard costing is a technique which established predetermined estimates of the costs with actual costs that are incurred. The predetermined costs are known as standard costs.

Variance

Is the difference between the actual cost and the standard cost or the actual revenue and the standard revenue during a period.

Variance Analysis

The process by which the total difference between actual cost and standard cost is broken down into its different item.

Where the actual costs EXCEED the standard costs, the difference is referred to as unfavourable (UF) or adverse (A) variance.

"Variance analysis is the investigation and classification of variances. Variances are investigated to find better ways of adhering of standard, of changing standard or of achieving goals or targets. Variances are classified so that the cause can be identified in order that corrective actions can be taken and responsibility pinpointed. Cost control is aided by analyzing and reporting variances."

Where the actual costs UNDER the standard costs, the difference is referred to as favourable (F) variance.

PREPARE VARIANCE ANALYSIS

CALCULATE MATERIAL, LABOUR AND OVERHEAD VARAIANCES

- Variance analysis involved two phrases that are computation of individual variances (material, labour and overhead) and determination of the cause(s) of each variance.

1) DIRECT MATERIAL COST VARIANCES (MCV)

Formula MPV :
Material Price Variance (MPV)
+
Material Usage Variance (MUV)
=
MPV + MUV

There are two cost variance materials:

a) ***Material price variance (MPV)*** which shows the difference between the actual price and the standard price. The buyer are purchasing officer is responsible for the price variance .

Formula MPV :
(Actual Price – Standard Price) X Actual Quantity Purchased/Used
(AP – SP) X AQ

+

b) **Material usage variance (MUV)** which shows the difference between the actual quantities of materials that ought to be used. The production manager is responsible for usage variance.

Formula MUV :
(Actual Quantity Used – Standard Quantity) X Standard Material Price (AQ – SQ) X SP

Example 1

The standard materialcost of producing one unit of Product MELETOP is RM20, comprising 1.5 kg of material A at a standard material price of RM7.50 per kg.

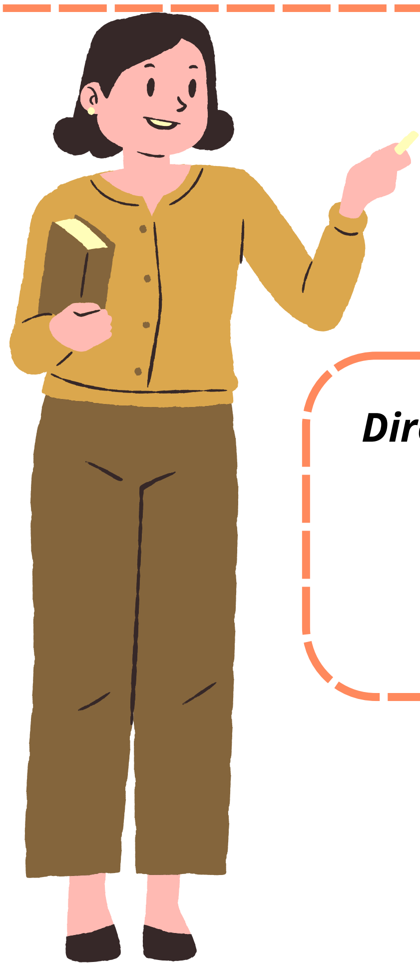
In September 2022, 1,500 units of Product MELETOP were produced and the actual quantity of A bought and consumed was 1,800 kg.The actual price paid for material A was RM8.20 per kg.

Material price variance (MPV)

MPV = (AP – SP) X AQ
= (RM8.20 – RM7.50) X 1,800kg
= RM1,260(UF)

Material usage variance (MUV)

MPV = (AP – SP) X AQ
= [1,800 – (1,500units X 1.5kg)] X RM7.50
= [1,800– 2,250] X RM7.50
= RM3,375(F)



*If the purchase quantity is not given in the question, always assume that it is the same as actual usage quantity.

Direct Material Cost Variances (MCV)

MCV = MPV + MUV
= RM1,260 (UF) + RM3,375(F)
= RM2,115(F)

Suggestion Solution :

2) DIRECT LABOUR COST VARIANCES (LCV)

Formula LCV :
Labour Rate Variance (LRV) +
Labour Efficiency Variance (LEV)
=
LRV + LEV

Direct labour cost variances are usually analysed into:

a) **Labour rate variance (LRV)** which shows the difference between the actual wages rate paid to the workers and the standard rate set.

Formula LRV :
(Actual Rate – Standard Rate) X Actual Hours Paid
(AR – SR) X AH

b) **Labour efficiency variance (LEV)** which shows the difference between the actual hours used and the hours that ought to be used (the standard hours).

Formula LEV :
(Actual Hours Worked – Standard Hours) X Standard Rate
(AH – SH) X SR

Example 2

Every unit of Product MELETOP requires 2 hours to produce. Standard labour rate of the company is RM2.80 per hour.

In September 2022, the workers took 3,800 hours to produce 1,500 units of Product MELETOP. Total wages cost in September was RM11,210.

Labour rate variance (LRV)

LRV = (AR – SR) X AH
= (RM2.95 – RM2.80) X 3,800 hours
= RM570 (UF)

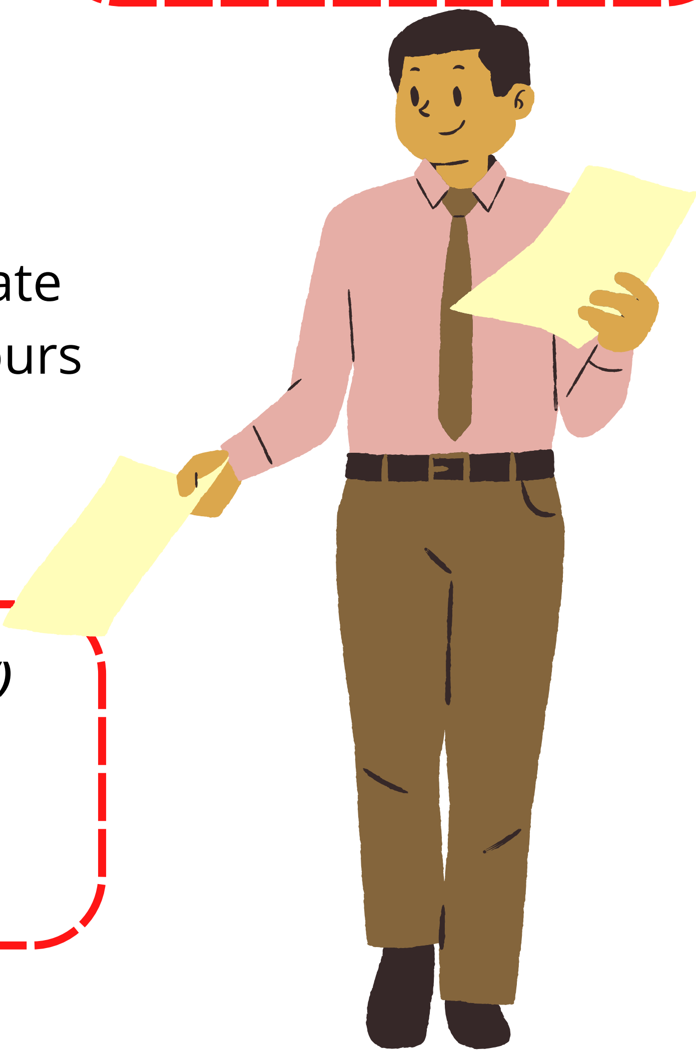
+

Labour efficiency variance (LEV)

LEV = (AH – SH) X SR
= [3,800– (1,500 units X 2 hours) X RM2.80
= RM2,240(UF)

Suggestion Solution :

- The actual wage rate
= RM11,210 / 3,800 hours
= RM2.95 per hour



Direct Labour Cost Variances (LCV)

LCV = LRV + LEV
= RM570 (UF) + RM2,240 (UF)
= RM2,810(UF)

Example 3

The budgeted variable production overhead for Kekal Maju Ltd. for the year 2023 is RM60,000. Budgeted direct labour time for the year was 45,000 hours. The standard labour time for one unit of product was 3 hours.During the year, the actualproduction was 600 units and the number of hours worked were 3,300.The actual variable overhead was RM5,200

Suggestion Solution :

(a) Using units of production

= <u>RM60,000</u>
****15,000**
= RM4 per unit

** * 45 000 / 3 = 15 000*

VPOV = AVOH - SVOH

= RM5,200 – (600 units X RM4)
= RM5,200 – RM2,400
= RM2,800 (UF)

(b) Using Labour hours

= <u>RM60,000</u>
45,000 hours
= RM1.333
(used 3 decimal points)

VPOV = AVOH - SVOH

= RM5,200– [(3 hours X 600 units) X RM1.333]
= RM5,200 – RM2,399
= RM2,801(UF)

3) (B) VARIABLE PRODUCTION OVERHEADEXPENDITURE VARIANCE

Formula VPO (Expenditure) V :

Actual Variable Overhead – (Actual Hours X Standard Overhead Rate)

Example 4

The budgeted variable production overhead for Kekal Maju Ltd. for the year 2023 is RM60,000. Budgeted direct labour time for the year was 45,000 hours. The standard labour time for one unit of product was 3 hours.During the year, the actualproduction was 600 units and the number of hours worked were 3,300.The actual variable overhead was RM5,200

Suggestion Solution :

VPO (Expenditure) V

= Actual Variable Overhead – (Actual Hours X Standard Overhead Rate)

= RM5,200 – (3,300 hours X RM1.333)
= RM5,200 – RM4,399
= RM 801 (UF)

3) (C) A)VARIABLE PRODUCTION OVERHEAD EFFICIENCY VARIANCE

Formula VPO (Efficiency) Variance
(SVOH for actual hours)– (SVOH for actual output)
OR
(Actual Hours – Standard Hours)X Standard Rate

Example 5

The budgeted variable production overhead for Kekal Maju Ltd. for the year 2023 is RM60,000. Budgeted direct labour time for the year was 45,000 hours. The standard labour time for one unit of product was 3 hours.During the year, the actualproduction was 600 units and the number of hours worked were 3,300.The actual variable overhead was RM5,200

Suggestion Solution :

VPO (Efficiency) Variance

= (SVOH for actual hours) – (SVOH for actual output)
= (RM1.333 X 3,300 hours) – (RM4 X 600 units)
= RM4,399– RM2,400
= RM1,999 (UF)

@

VPO (Efficiency) Variance

= (ActualHours – Standard Hours) X Standard Rate
= [3,300 hours – (3 hours X 600 units)] X RM1.333
= RM1,999(UF)

Notes : (If have the difference in value, it is only due to a problem with the position of the decimal point used)

4) 1)Fixed Production Overhead Variance

Fixed overhead cost variance is the difference between the overhead recovered or absorbed and the actual fixed overhead incurred.

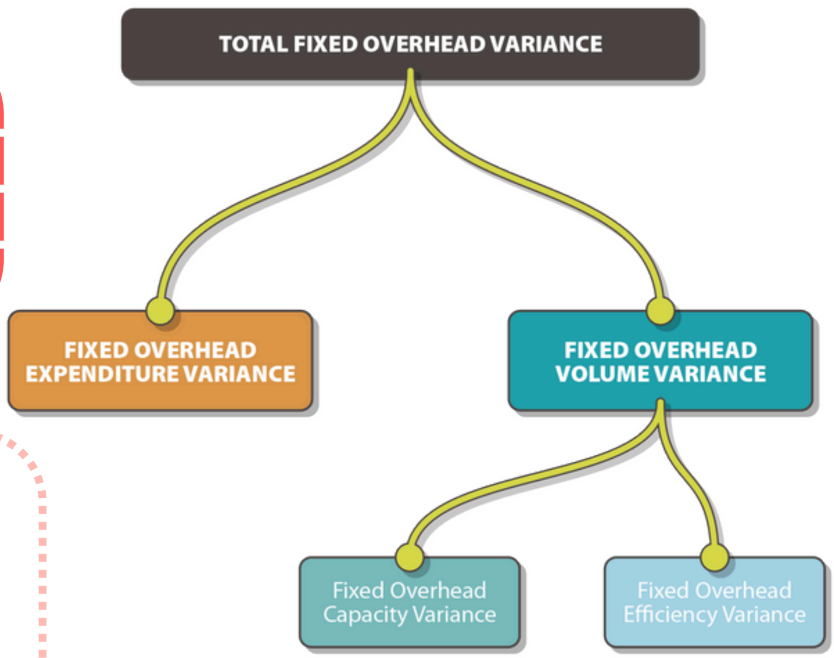
There are two main variances:

a)
Fixed Production Overhead Expenditure Variance (FOHEV)

Formula (FOHEV) :

Actual Expenditure – Budgeted Expenditure

b)
Fixed Production Overhead Volume Variance (FOHVV)



Formula (FOHVV) :
Budgeted Expenditure – (Standard Hour X StandardRata) Budgeted Expenditure – Standard Cost Absorbed

Example 6

The budgeted fixed production overhead for Excel Ltd. for the year 2022 is RM48,000. Budgeted direct labour time or the year was 12,000 hours. The standard labour time for one unit of product was 3 hours. During the year, the actual production was 3,900 units and the number of hour worked was 11,500. The actual fixed overhead was RM50,000.

Suggestion Solution :

a) Fixed Production Overhead Expenditure Variance (FOHEV)

Formula (FOHEV) :

= Actual Expenditure – Budgeted Expenditure
= RM50,000 – RM48,000

= RM2,000 (UF)

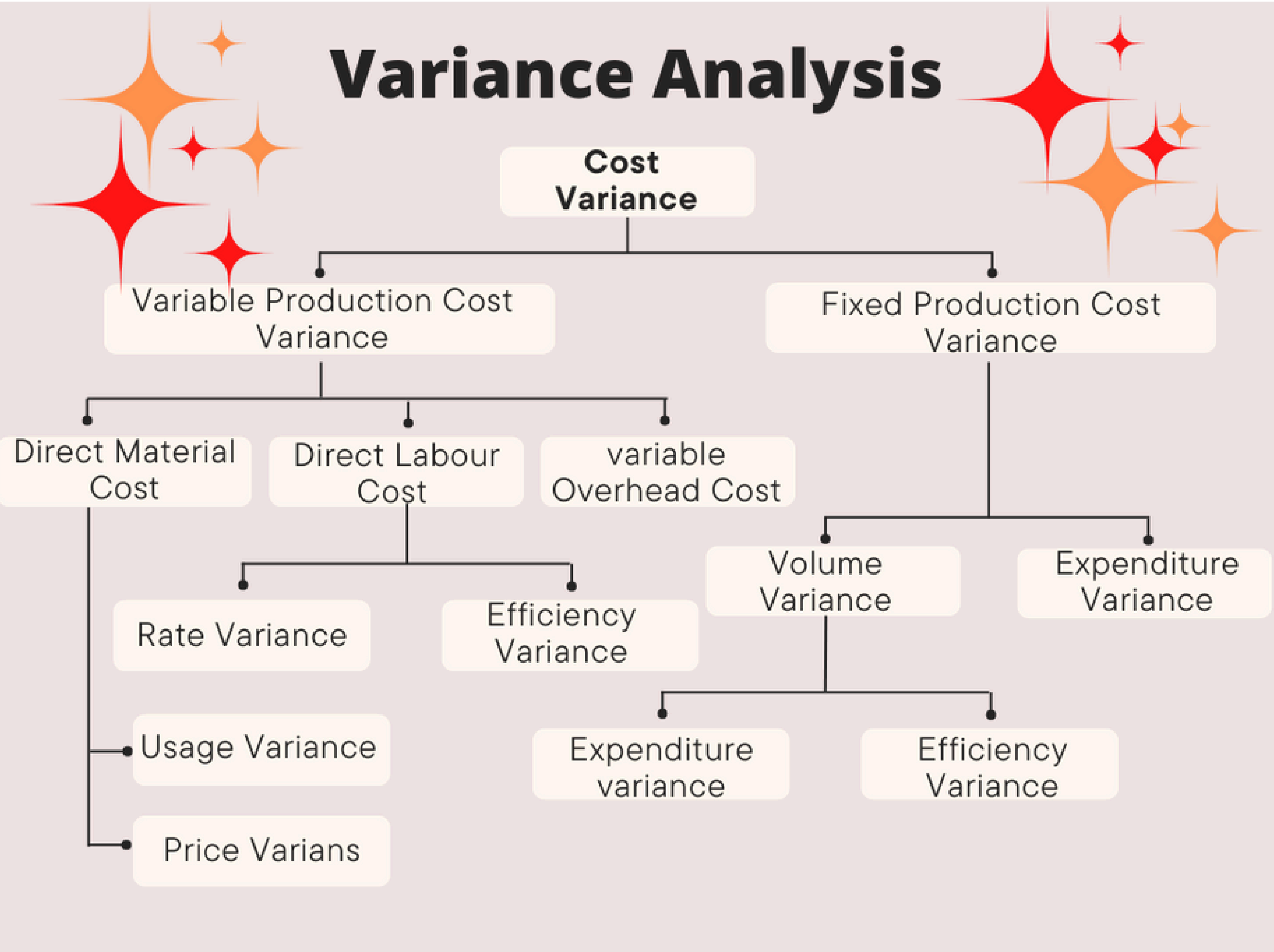
b) Fixed Production Overhead Volume Variance (FOHVV)

Formula (FOHVV) :

= Budgeted Expenditure – Standard Cost Absorbed
= RM48,000 – [(3,900 units X 3 hours) X RM4

= RM1,200 (UF)


Variance Analysis


Variance Analysis
Cost Variance
Variable Production Cost Variance
Fixed Production Cost Variance
Direct Material Cost
Direct Labour Cost
variable Overhead Cost
Volume Variance
Expenditure Variance
Rate Variance
Efficiency Variance
Usage Variance
Price Varians
Expenditure variance
Efficiency Variance

TYPICAL CAUSE OF VARIANCE

THE REASON FOR MATERIAL PRICE VARIANCE ARE AS FOLLOWS :

- INCREASE OR DECREASE IN PRICE
- DIFFERENCES IN QUALITY
- CASH DISCOUNT WAS TAKEN OR NOT TAKEN
- STANDARD PRICE SET WAS TOO LOW OR TOO HIGH
- EFFICIENT OR INEFFICIENT BUYING
- INCREASE OR DECREASE IN DELIVERY CHARGES

The reason for MATERIAL USAGE VARIANCES are as follows:

01 Use of substitutes

02 Material mix

03 Theft

04 Waste

05 Condition of machinery

06 Reckless use

07 Workmanship

08 Method of production

09 Nature of material

10 Handling of material

11 Quality of materia

TYPICAL CAUSE OF VARIANCE

The reason for LABOUR RATE VARIANCE

- Use of additional manpower
- High rates are paid even when productivity is low or idle
- Standard not kept up to date
- Wage settlement
- Demand and supply of labour
- The bonus part of the hourly rate is different then the bonus allowed in the standard
- Working overtime
- Using grade labour different from that provided for in the standard
- Time taken for the worker
- Paying worker at a lower rate
- Changes in rate

The reason for LABOUR EFFICIENCY VARIANCE are as follows:

1. Methods of operations
2. Standard set too tight or too loose
3. Reworking spoilt items
4. Working environment and working condition
5. Effort put into work
6. Extent of training given
7. Inefficient equipments or machineries
8. Lost time due to machine breakdown & illness

TYPICAL CAUSE OF VARIANCE

THE REASON FOR VARIABLE OVERHEAD VARIANCE ARE AS FOLLOWS :

EFFICIENCY OR INEFFICIENCY IN THE USE OF THE VARIABLE OVERHEAD ITEM

RELATIONSHIP BETWEEN VARIABLE OVERHEAD AND DIRECT LABOUR HOURS IS NOT PERFECTED

INADEQUATE CONTROL OF AN ITEM OF OVERHEAD COSTS

VOLATILE BEHAVIOR OF AN ITEM OF OVERHEAD COSTS

PRICES CHANGES IN OVERHEAD ITEMS

INACCURATE ESTIMATES OF ONE OR MORE ITEMS COMPRISING VARIABLE OVERHEAD

The reason for FIXED OVERHEAD EXPENDITURE are as follows :

Changes in the composition of fixed overhead items

Inaccurate budgeting

Fluctuations in production volume due to seasonal fluctuation

Under or over spending in one or more of the overhead items

Changes in the price of an expense

3) (A) VARIABLE PRODUCTION OVERHEADVARIANCE (VPOH)

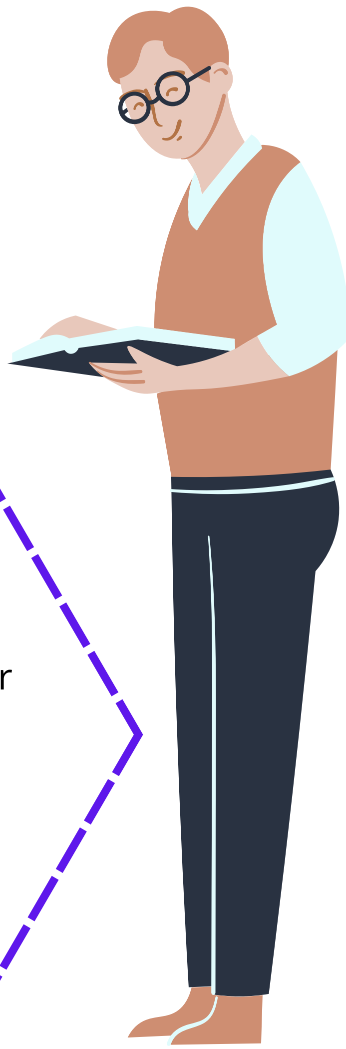
Formula VPOH :

Actual Variable Overhead (AVOH) –
Standard Variable Overhead (SVOH)
= AVOH - SVOH

There are two main method used to analyse whereby variable overhead cost variance:

(a) Using units of production as a basis for absorbing variable overhead into production.

(b) Using labour hours as a basis for absorbingvariable overhead into production.



Review Exercises

Question 1

Iconiey Co. is a company that manufactures clothes brandedIktibar. Throughout the month of January 2025, the company has issued 500 units of clothes. The following is information related to the production during the month of January.

Purchase direct material: 18,000 metre at RM1.38 per metre	RM24,480
Direct material usage: 9,500 metre at RM1.38 per metre	13,110
Direct labour: 2,100 hour at a rate RM9.15 per hour	19,215

Standard prime cost per cloth as follows:

Direct material: 20 metre at RM1.35 per metre	RM27
Direct labour: 4 hours at a rate RM9.00 per hour	36
Total standard prime cost per unit produced	63

You are required to calculate:

a) Materials price variance and material usage variance
b) Labour rate varianceand labour efficiency variance

Question 2

Budgeted output 5,000 units
Budgeted hours 10,000 hours Budgeted variable overhead
RM2,000
Actual variable overhead RM3,000
Actual output 4,000 units
Actual hours 12,000 hours

From the data given,calculate:

a) Variable Production Overhead Variance
b) Variable Production Overhead Expenditure Variance
c) Variable Production Overhead Efficiency Variance

Review Exercises

Question 3

Budgeted hours	10,000 hours
Budgeted output	5,000 units
Budgeted fixed overhead	RM3,000
Actual hours	12,000 hours
Actual output	4,800 units
Actual fixed overhead	RM3,600 Overhead absorbed based on unit produced.

From the data given, calculate:

a) Fixed Production Overhead Expenditure Variance
b) Fixed Production Overhead Volume Variance

Question 4

Company AABBC produced a type of product and the following are the production budget for the year 2025:

Volume produced	60,000 units
Material used	84,000 kg valued RM67,200
Direct labour	90,000 hours at cost RM198,000
Variable overhead	RM24,000
Fixed overhead	RM48,000

In May 2025, 4,800 units of the product were produced with costs that have actually occurred are as follows:

Material used	7,200 kg valued RM6,480
Direct labour	5,760 hoursat cost RM8,640
Variable overhead	RM2,400
Fixed overhead	RM4,800

The company use unit produces for overhead absorption.

Calculate:
a) Materials price variance and material usage variance
b) Labour rate varianceand labour efficiency variance
c) Variable overhead expenditure variance
d) Fixed overhead expenditure and fixed overheadvolume variance

Review Exercises

Question 5

States AMV using the standard cost system and the following are the particulars relating to the budget provided for the year ended 31 December 2000, and actual results have been obtained as follows:

	Budgeted	*Actual*
Volume produced	15,000 units	12,000 units
Materials used	45,000 kg	42,000 kg
Materials cost used	RM54,000	RM58,800
Labour hour used	37,500 hours	36,000 hours
Labour cost used	RM131,250	RM136,800
Manufacturing variable overhead	RM30,000	RM32,400
Fixed overhead	RM15,000	RM18,000

Overhead absorbed based on labour hour.

Calculate:

a) Materials price variance and materials usage variance
b) Labour rate variance and labour efficiency variance
c) Variable overhead expenditure variance and variable overhead efficiency variance
d) Fixed overhead expenditure and fixed overhead volume variance

Question 6

The following data are the budget and actual result shave been prepared for GHK Company for the year 2025.

	Budgeted	*Actual*
Volume produced	8,000 units	7,500 units
Materials used	9,600 kg	11,250 kg
Materials cost used	RM7,680	RM7,875
Labour hour used	16,000 hours	16,500 hours
Labour cost used	RM24,000	RM29,700
Manufacturing variable overhead	RM12,000	RM13,200
Fixed overhead	RM6,400	RM8,250

Overhead absorbed based on labour hour.

Calculate:
a) Materials price varianceand materials usage variance
b) Labour rate varianceand labour efficiency variance
c) Variable overhead expenditure varianceand variable overheadefficiency variance
d) Fixed overheadexpenditure and fixed overhead volumevariance

Review Exercises

Question 7

Cum Maa Sdn. Bhd. produce layered kitchen cabinet. The following is the estimation cost for 300 unit of the kitchen cabinet.

Direct materials used (15,000 kg)	RM39,000
Direct labour (12,000 hours)	RM24,000
Variable Overhead	RM9,000
Fixed Overhead	RM6,000

Overhead is absorbed basedon labour hours.

During October 2025, 330 units of the kitchen cabinet are produced and the actual costs incurred are as follows:

Direct materials used (17,200 kg @ RM2.40 per kg)
Direct labour (13,000 hours @ RM2.20 per hours)
Variable overhead: RM9,570
Fixed overhead: RM6,250

You are required to calculate:

a) Materials price variance& Materials usage variance
b) Labour rate variance& Labour efficiency variance
c) Variable production overhead expenditure variance]
d) Variable production overhead efficiency variance
e) Fixed production overhead expenditure variance
f) Fixed production overhead volume variance

Question 8

The following information is available:

Standard output	900 units
Actual output	1,000 units
Actual quantity	4,500 kg @ RM0.75 per kg

Standard materialcost per unit 4 kg at RM0.60per kg = RM2.40

Calculate the material cost variance.

Review Exercises

Question 9

The following is the information related to standardsdirect materials Syarikat Afi Sdn. Bhd.

	Standard Quantity per unit	*Material cost per unit*
Material A	1 metre	RM3.50 per metre
Material B	1 litre	RM4.50 per litre

During the period10,000 units were produced, 10,500 metres and 9,500 litres of materials were used. For Material A, 12,000 METRES AND Material B, 11,000 litres had been purchased at a price RM3.75 and RM4.75 respectively.

Standard labour hour per unit was 1.5 hours and standard rate was RM3.50 per hour. Actual hour was14,500 and had been paid at RM3.75per hour.

Budgeted variable overhead was RM25,000. Normal capacity of production was 10,500 units. Direct labour hour was used as basis for the overhead absorption. Actual variable overhead was RM27,000 and standard hour was 1.5 hours per unit.

Budgeted fixed overhead was RM15,000 and actual fixed overhead was RM17,500.

Calculate:

a) Materials price variance & Materials usage variance
b) Labour rate variance& Labour efficiency variance
c) Variable production overhead expenditure variance]
d) Variable production overhead efficiency variance
e) Fixed production overhead expenditure variance
f) Fixed production overhead volume variance

Review Exercises

Question 10

The following are the budgetedand actual figures for weekly operation for Rex Company.

Budgeted	**RM**
Sales 10,000 units @ RM4.00 per unit	40,000
Direct materials 10,000 kg @ RM1.00 per kg	10,000
Direct labour 1,000 hours @ RM4.00 per hour	4,000
Variable overhead 10,000 unit @ RM0.50 per unit	5,000
Fixed overhead RM7,000 per week	7,000
	26,000
Budgeted profit	14,000
Actual	**RM**
Sales 8,000 @ RM4.20 per unit	33,600
Direct materials 9,500 kg @ RM0.90 per kg	8,550
Direct labour 900 hours @ RM4.50 per hour	4,050
Variable overhead	4,000
Fixed overhead	6,500
	23,100
Minus: Closing stock	2,600
Actual profit	13,100

Note:

i. It was estimated that 10,000 units will be produced and been sold

ii. Actual unit produced was 9,000 units and 8,000 units were sold

You are required to:

a) Calculate the following below:

i. Materials price variance& Materials usage variance

ii. Labour rate variance& Labour efficiency variance

iii. Variable production overhead expenditure variance]

iv. Variable production overhead efficiency variance

v. Fixed production overhead expenditure variance

vi. Fixed production overhead volume variance

Review Exercises

Question 11

Ghoribb Co. produces products for local markets. The following data obtained from the budget provided on 1 January 2025. Data provided is based on the level of production of 60,000 units.

Standard cost per unit:	
Direct material	2.5 kg @ RM2.50 per kg
Direct labour	30 minutes @ RM2.50 per hour
Manufacturing variable overhead	30 minutes @ RM2.50 per hour
Manufacturing fixed overhead	30 minutes @ RM1.80 per hour

Factory overheads charged to products based on direct labour hours in which each unit requires a 30 minutes direct labour hours. Until 31 December 2025, the company has issued 65,000 units. Below are the actual data that was collected on 1 January 2021.

Direct material	175,000 kg @ RM2.45 per kg
Direct labour	33,500 hours @ RM2.65 per hour
Manufacturing variable overhead	RM82,075
Manufacturing fixed overhead	RM56,950

You are required to:

a) Calculate:

i. Materials price variance & Materials usage variance
ii. Labour rate variance& Labour efficiency variance
iii. Total labour cost variance

b) State THREE (3) advantages Standard Costing System

Review Exercises

Question 12

Syarikat Indah Kitchen Sdn. Bhd. manufactures a single product,a laminated kitchen unit which has a standard cost of RM80 per unit made up as follows:

		RM
Direct material	15 sq. metre @ RM3 per sq. metre	45
Direct labour	5 hours @ RM4 per hour	20
Variable overhead	5 hours @ RM2 per hour	10
Fixed overhead	5 hours @ RM1 per hour	5
		80

The standard selling price of the kitchen unis is RM100.The monthly budgetprojects production and sales of 1,000 units. Actual figures for the month of April are as follows:

.

Sales	1,200 units @ RM102
Production	1,400 units
Direct materials	22,000 sq. metres @ RM4 per sq. metre
Direct wages	6,800 hours @ RM5 per hour
Variable overheads	RM11,000
Fixed overhead	RM6,000

You are required to:

a) Calculate the following below:

i. Materials price variance& Materials usage variance

ii. Labour rate variance & Labour efficiency variance

iii. Variable production overhead expenditure variance]

iv. Variable production overhead efficiency variance

v. Fixed production overhead expenditure variance

b) State TWO (2) factors contribute to the existing of:

i. Material usage variance

ii. Wage rate variance

Review Exercises

Question 13

Suria Ltd produces electronic products. The estimated volume of production is 2,000 units. Direct labour hours are estimated at 8,000 hours which costs of RM6,600. Where else the material used to produce the products is estimated at 4,000 units whichcost RM3,200.

The actual data obtainedare as follows:

Product volume	1,500 units
Direct labour hours	7,500 hours
Materials used	3,800 units
Materials cost	RM3,600
Direct labour cost	RM7,050

The standard selling price of the kitchen unis is RM100. The monthly budget projects production and sales of 1,000 units. Actual figures for the month of April are as follows:

From the information given, you are required to calculate the following variances:

a) Materials price variance& Materials usage variance
b) Labour rate variance& Labour efficiency variance
c) Identify 3 reasons for materialprice variance and 2 reasonsfor labour rate variance

Review Exercises

Question 14

a) Holly Textile Sdn. Bhd. operates a standard costing system and the following information applies to the cotton line of jeans for the month of November:

Standard Cost		*Cost per pair (RM)*
Direct labour	(1 hour at RM3 per hour)	3.00
Direct material	(3 pieces at RM 2 per piece)	6.00
Variable overhead	(1 hour at RM3.50 per hour)	3.50
Fixed overhead	(1 hour at RM2.50 per hour)	2.50
		15.00

The planned production for November was 10,000 pairs and overheadmight alternatively be calculated:

Fixed overhead	RM25,000
Variable overhead	RM35,000

.

Actual Cost for November

Jeans Produce	: 9,000
Direct Labour	: 8,500 hours at RM2.50 per hour
Direct Material	: 24,000 pieces at RM2.10 per piece
Variable Overhead	: RM30,000
Fixed Overhead	: RM22,500

You are required to calculate:

i. Materials price variance& Materials usage variance
ii. Labour rate variance& Labour efficiency variance
iii. Variable production overheadexpenditure variance]
iv. Variable production overheadefficiency variance

b) Give THREE (3) reasons why labour efficiency variance arise

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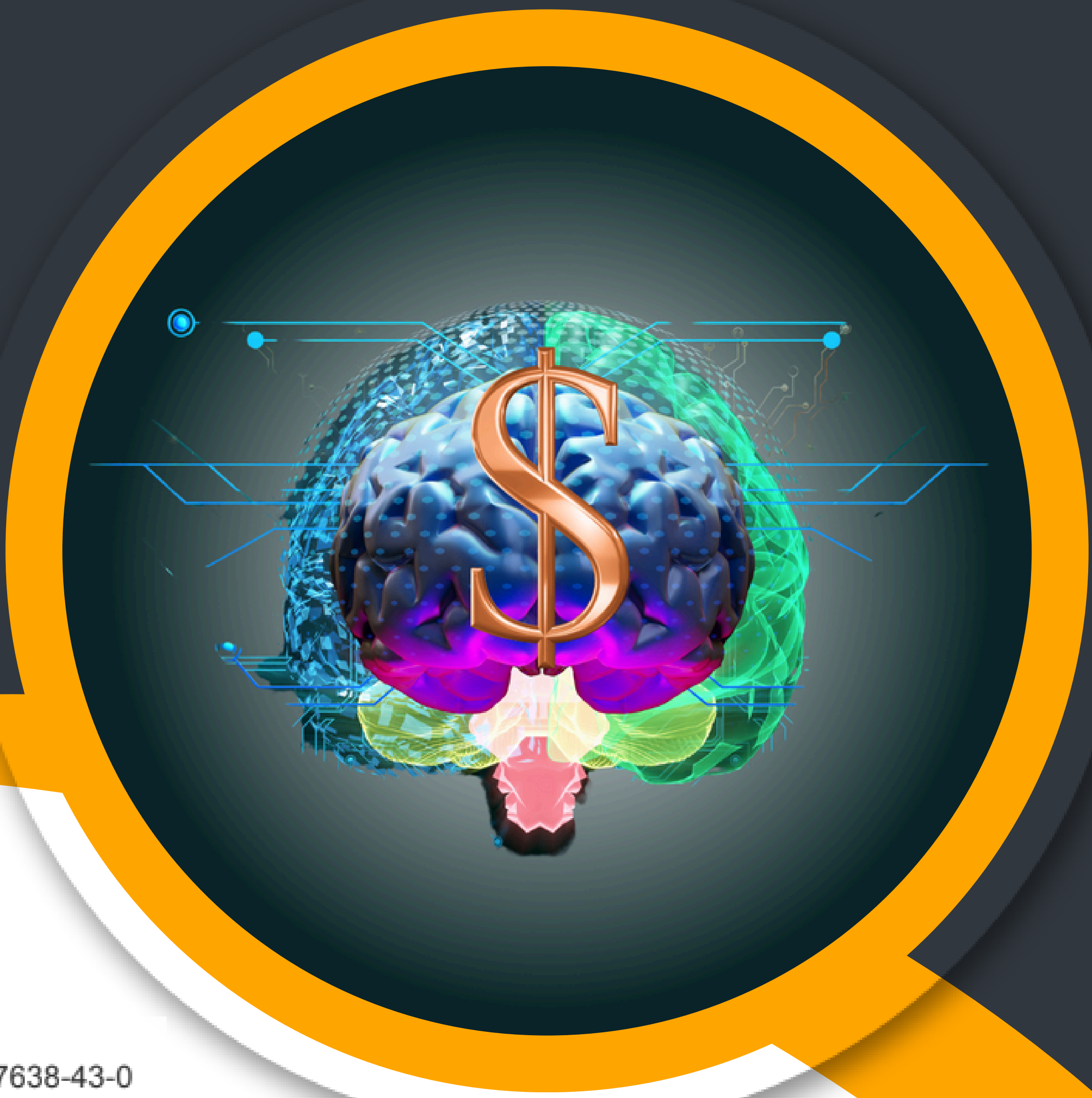

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