

TOPIC: 9. PRODUCTION MANAGEMENT:

This is the planning, implementation and control of industrial production processes to ensure smooth and efficient operation. Production means transformation of inputs (goods and services) into output.

A product is anything that can satisfy a need or a want. It can also mean a set of tangible and associated attributes capable of being exchanged for a value with the ability to satisfy consumer or business need.

Elements of a Product:

Description: This is the product name on how it can be called. E.g. doughnut, French cut, back bush, etc. this should be unique and appealing to customers.

Product attributes: These are the product features or characteristics that make it different from others. They can be in form of taste, colour, shape, size etc.

Quality: This is the extent to which the product meets the customers' needs, expectation and requirements.

Branding: A brand is a name, sign, symbol, or design or combination of all these intended to differentiate ones products or services from others. Branding creates customer loyalty about a particular product e.g. Guinness beer, tusker, bell lager, Airtel etc.

Features Considered When Developing A Product:

- ✓ **Consumers' needs:** It is better to develop a product that shall satisfy the needs of the customers but not the entrepreneurs' needs.
- ✓ **Availability of raw materials:** It is better to see that there are enough raw materials to produce the required product and there is a steady supply without any interruptions.
- ✓ **Decide on the shape,** colour, brand name, quality and quantity of what the customers want. This shall help to attract or discourage customers to your product.
- ✓ **Competitors' products:** Decide whether it should look the same with those on the market or unique depending on the needs of the customers.
- ✓ **Potential Market:** it is wise to look at the potential customers to who you expect to sell the product. This can be looked at in for of age, sex, income level, buying behaviours etc.
- ✓ **Government policy:** Establish the policy of the government concerning the product you hope to produce and set standards required for that product before producing it.
- ✓ **Packaging type:** the materials to be used for packaging of the product should not be neglected as different products require different packaging in nature.

Importance of Production Management to the Business Firm:

It leads to the accomplishment of firm's objectives: Production management helps the business firm to achieve all its objectives by producing products, which satisfy the customers' needs and wants. So, the firm will increase its sales.

It leads to reputation, Goodwill and Image: Production management helps the firm to satisfy its customers. This increases the firm's reputation, goodwill and image.

It helps to introduce new products: Production management helps to introduce new products in the market. It conducts Research and Development (R&D). This helps the firm to develop newer and better quality products.

It supports other functional areas: Production management supports other functional areas in an organization, such as marketing, finance and personnel. The marketing department will find it easier

to sell good-quality products and the finance department will get more funds due to increase in sales. It will also get more loans and share capital for expansion and modernization.

It helps to face competition: Production management helps the firm to face competition in the market. This is because production management produces products of right quantity, right quality, and right price and at the right time.

It leads to optimum utilization of resources: Production management facilitates optimum utilization of resources such as manpower, machines, etc. So, the firm can meet its capacity utilization objective. This will bring higher returns to the organization.

It minimizes cost of production: Production management helps to minimize the cost of production. It tries to maximize the output and minimize the inputs. This helps the firm to achieve its cost reduction and efficiency objective.

It leads to expansion of the firm: The Production management helps the firm to expand and grow. This is because it tries to improve quality and reduce costs. This helps the firm to earn higher profits. These profits help the firm to expand and grow.

Importance of Production Management to Customers and Society:

It promotes a higher standard of living: Production management conducts continuous research and development (R&D). So they produce new and better varieties of products. People use these products and enjoy a higher standard of living.

It generates employment: Production activities create many different job opportunities in the country, either directly or indirectly. Direct employment is generated in the production area, and indirect employment is generated in the supporting areas such as marketing, finance, customer support etc.

It improves quality and reduces cost: Production management improves the quality of the products because of research and development. Because of large-scale production, there are economies of large scale. This brings down the cost of production. So, consumer prices also reduce.

It spreads effect: Because of production, other sectors also expand. Companies making spare parts will expand. The service sector such as banking, transport, communication, insurance, BPO, etc. also expand. This spread effect offers more job opportunities and boosts economy.

It creates utility: Production creates Form Utility. Consumers can get form utility in the shape, size and designs of the product. Production also creates time utility, because goods are available whenever consumers need it.

It boosts economy: Production management ensures optimum utilization of resources and effective production of goods and services. This leads to speedy economic growth and well-being of the nation.

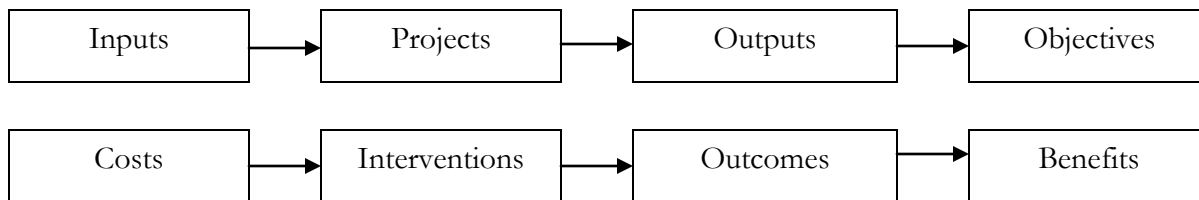
Capacity Planning and Design:

Capacity planning is the process of determining the production capacity needed by an organization to meet changing demands for its products.

Capacity Requirement Planning (CRP): It is the process of determining in detail the amount of labour and machine resources needed to achieve the required production. This process considers the lead time of operations and offsets the operations at work centres accordingly.

PRODUCTION PROCESS:

The production process refers to the stages required to complete a product from the idea to the final master item ready for use/consumption. It is how the business intends to produce or procure the desired goods or services for the final consumer or user.



Steps in Production Process:

- 1) Carrying out market research to find out customers' opinion about what to produce
- 2) Developing of a product idea to determine what products to produce and its shape, size etc.
- 3) Transforming of the idea into a product design to be put on the market
- 4) Sourcing for raw materials to be used in production.
- 5) Going into actual production of good but putting in mind the quality element.
- 6) Packing the product to suit customers' requirements for easy handling and transportation
- 7) Branding the product to distinguish it from similar competing products.
- 8) Storing the product well to avoid contamination so as to maintain its quality.
- 9) Distributing the product to reach the customers in time by using different channels available.
- 10) Making customer follow-up to see the product meets the customers' requirements and desires.
- 11) Making of any improvement on the product to meet the changing needs and wants.

Question to Students: (To be checked when the term opens)

You are operating a metal fabricating workshop in your home area and you plan to diversify to also produce bread.

- (a) Prepare a programme for production process for the new product.
- (b) State the objectives of developing new product ideas.

Types of Production Processes:

Job production: This is the creation of single items by either one operative or a team of operatives. It is possible for a number of identical units to be produced in parallel under job production. Smaller projects can also be seen as a form of job production, e.g. hand knitting a sweater, writing a book, rewiring a house, etc.

Batch production: The term batch refers to a specific group of components which go through a production process together. As one batch finishes, the next one starts. For example on Monday, Machine A produces a type 1 engine part, on Tuesday it produces a type 2 engine part, on Wednesday a type 3 and so on. All engine parts will then go forward to the final assembly of different categories of engine parts. Batches are continually processed through each machine before moving on to the next operation.

Flow production: This is a continuous process of parts and sub-assemblies passing on from one stage to another until completion. Units are worked upon in each operation and then passed straight on to the next work stage without waiting for the batch to be completed.

Factors Affecting Production Decisions:

Natural factors: This includes factors like climatic conditions, soil type etc. all affect production. Production can be diminished due to natural calamities like flood, drought etc.

Technical progress: This can positively influence production. Use of improved variety, fertilizers, insecticides etc. can give us more production.

Political factors: This will also affect production positively or negatively. Decisions pertaining to taxation, investment or fiscal among others affects production decisions.

Infrastructure facilities: Facilities like transport, credit, storage etc. are equally important to have more impact on production. How you are going to transport the raw materials to the production plant plus the transferring of the finished goods from the plant to the customers is very important.

Sales promotion: The promotional activities to be used during the product sales and whether these activities can lead to more sales are important. You have to determine the costs that are to be involved in this process annually since this activity is a continuous one throughout years and years.

Character of people: This determines productivity. The hard workers and sincere workers always produce more and hence it is very important factor which influences production.

Availability of market for the products: One has to first establish that there is market for the products to be produced. This can be ascertained by carrying out market research to see what types of goods are missing from the market and that buyers are looking for them.

Availability of raw materials: Establish that there are enough raw materials to produce the goods or services such that there is no shortage to cause interruptions in the production process.

Techniques of production. This is very important to be considered as it will determine the quality of output. An entrepreneur has to ensure that the methods of production to be applied will lead to quality and quantity output to enable him compete in the market and also capture enough market share to make him continue in the production line.

Availability of human resource: These are the people to carry out the production process. It is necessary to ensure that there is enough personnel to enable the business produce enough goods or services at the right time to feed the increasing demand.

Government Policies: It is very important to ascertain the government policies as regards the type of products that an entrepreneur intends to produce. This is because there are some goods or services which may be illegal in a particular country and hence their production being prohibited.

Expected tax to be charged: High taxes from the government will reduce on the amount of profits earned by the firm and this may compel the business to increase the prices for the goods or services which in the end will discourage customers from buying the products due to high prices putting in mind the law of demand.

Competition level: One has to decide whether to produce the same goods like those on the market or not and if so, there will be high competition which may necessitate carrying out a lot of sales promotion activities so as to get market for your products.

Labour requirements: There is need to know the number of employees that will be required in the production process and how much each will be paid. If the costs are high, then the firm can avoid them and look for others.

Legal requirements: This affects the production process as you have to know the type of production you are in to ascertain the kind of license you need. Is the business legal or illegal in the country it is being set? Etc.

Costs of production: This should be cheap such that it does not force the final price for the product up. If the final price for the product is high, customers may be discouraged from buying the product.

Capital/ money requirement: This will determine the size of the firm at the same time production level and capacity. How much is required to enable production start should be looked at critically.

Community stand: The community in which the production plant is to be set determines a lot. If the community is against the idea, the costs may be high which may force the entrepreneur to relocate the plant to another place.

Factors to Consider Before Producing Goods or Services:

1. **Availability of market for the products:** One has to first establish that there is market for the products to be produced. This can be ascertained by carrying out market research to see what types of goods are missing from the market and that buyers are looking for them.
2. **Availability of raw materials:** Establish that there are enough raw materials to produce the goods or services such that there is no shortage to cause interruptions in the production process.
3. **Techniques of production.** This is very important to be considered as it will determine the quality of output. An entrepreneur has to ensure that the methods of production to be applied will lead to quality and quantity output to enable him compete in the market and also capture enough market share to make him continue in the production line.
4. **Availability of human resource:** These are the people to carry out the production process. It is necessary to ensure that there is enough personnel to enable the business produce enough goods or services at the right time to feed the would be increasing demand.
5. **Government Policies:** It is very important to ascertain the government policy as regards the type of products that an entrepreneur intends to produce. This is because there are some goods or services which may be illegal in a particular country and hence their production being prohibited.
6. **Expected tax to be charged:** High taxes from the government will reduce on the amount of profits earned by the firm and this may compel the business to increase the prices for the goods or services which in the end will discourage customers from buying the products due to high prices putting in mind the law of demand.
7. **Competition level:** One has to decide whether to produce the same goods like those on the market or not and if so, there will be high competition which may necessitate carrying out a lot of sales promotion activities so as to get market for your products.

WORK SCHEDULING:

Scheduling is the process of deciding how to commit resources between varieties of possible tasks. Workplace scheduling is the process of ensuring that an organization has sufficient staffing levels at all times.

A schedule is a list of employees who are working on any given day, week or month in a work place.

Work Order Form:

This is a form where the customers' jobs are recorded showing the name of the customer, work to be done, employee to do the work, when to start and finish the work plus the cost of the same work. This form will have the following information:

1. Name, address and phone contact of the customer.
2. Date of the work order
3. Work order number.
4. Projected starting and finishing time of the job got
5. Description of the work to be done
6. Names of the employees to perform the job
7. Total costs of the work including taxes.

Sample of a work order form:

BANAMASAKA WELDERS LTD TEL: 0414 435390						
Order No..... Date:		WORK ORDER FORM				
Customer Name and Address	Work Description	Employee to do the Work	Starting time / Date	Ending time / date	Order work No.	Job cost (UGX)
Namukasa Jane 0752 290836	Door fixing	General staff	10/04/2010	30/04/2010	001	2,400,000.

Work Schedule Form:

This is a form that specifies the work to be done, the customer's name, when it will begin and end and which employee is responsible for the work. Scheduling of work is important for the following reasons:

1. It helps to make sure that work is completed on time.
2. It facilitates sequencing of time and jobs, as some jobs need completion before others.
3. It keeps the workers busy other than being redundant for the firm to lose money and time
4. It helps to coordinate work in different departments.
5. It leads to full customer satisfaction as their work is done as per the agreed time.
6. It helps to reduce work conflicts among the workers as each one knows his/her responsibility. A work schedule for an organization can be for one day, a week or even a month.

BANNAMASAKA WELDERS LTD P.O BOX 445 KAMPALA TEL: 0414 435390						
EMPLOYEE WORK SCHEDULE						
Day	Name of worker	Work Description	Supervisor	Start Time	End Time	Remarks
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Prepared By: Signature:..... Name: Title: Date:.....			Approved By: Signature:..... Name: Title:..... Date:.....			
} Must be filled in						

Below Is the Vehicle Maintenance Programme

AIDAH'S RESTAURANT P.O BOX 35, JINJA TEL: 0434 8695044 VEHICLE MAINTENANCE PROGRAMME					
Day	Activity	Service Venue	Vehicle No.	Person Responsible	Remarks
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					
Prepared by: Signature:..... Approved by: Signature:..... Name:.....Name:..... Title:.....Title:..... Date:.....Date:.....					

Reasons for Budgeting:

This is a summary of projected incomes and expenses of a business for a specified period of time or It is a formal statement of management goals and objectives expressed in financial terms for a specified period.

- 1. To enable forced planning:** A budget compels management to plan for future. It forces management to look ahead and become more effective and efficient in administering the business operations.
- 2. To enable performance evaluation and control:** It facilitates control by providing definite expectations in the planning phase that can be used as a form of reference for judging the subsequent performance.
- 3. To coordinate operations:** Budgeting helps to coordinate, integrate and balance the efforts of various departments in the light of the overall objectives of the enterprise.
- 4. To improve on effective communication:** Budgeting improves the quality of communication. The firm's objectives, budget, goals, authority and responsibility and procedures to implement plans are clearly written and communicated through budgets to all individuals in the firm.
- 5. To improve productivity:** It increases the morale and thus the productivity of the employees by seeking their meaningful participation in the formulation of plans and policies, bringing harmony between individual goals and the enterprise objectives and by providing incentives to perform more effectively.
- 6. To help manage by Exception:** Budgeting permits to focus the management's attention on significant matters through budgetary reports.
- 7. To be efficient:** It measures efficiency, permits management self-evaluation and indicates the progress in attaining the enterprise objectives.
- 8. To help aim at profit mindness:** Budgeting develops an atmosphere of profit mindness and cost consciousness.
- 9. To aim towards optimum utilization of resources:** It helps to optimize the use of the firm's resources, capital and human. It aids in directing the total efforts of the firm into the most profitable channels.

10. To ensure sufficient working capital and other resources for the efficient operation of the business.
11. To show management where effort is needed to remedy situations and facilitate management by exception.
12. To identify the activities to be undertaken and allocate authority and responsibility. After formalizing all the requirements for the business to start, the entrepreneur may need to establish an operational budget.

Types of budgets:

1. Operating Budgets: An operating budget is a statement that presents the financial plan for each responsibility centre during the budget period and reflects operating activities involving revenues and expenses. The most common types of operating budgets are expense, revenue and profit budgets.

Importance of operational budget:

- ✓ It helps to estimate the production cost in advance by considering anticipated items of expenditures
- ✓ It helps to prioritize expenditures basing on the income as it shows all the items of expenditure.
- ✓ It facilitates proper pricing of products basing on estimated production cost to get the desired profits.
- ✓ It helps in calculating the gross profit/loss basing on the estimated sales & costs of production or costs of sales.
- ✓ It enables the calculation of net profit/loss by comparing estimated costs to planned gross profits.
- ✓ It enables the monitoring of the business as it provides the business with the direction and purpose like the estimated sales.
- ✓ It helps to know the sources of income for business so as an entrepreneur may plan in time where to get additional funds to finance the business operations.

Operational Budget for Kamasu Constructors Limited

KAMASU CONSTRUCTORS LIMITED P.O BOX 530, KAMPALA TE: 0414 526930 <u>OPERATIONAL BUDGET FOR THE MONTH OF JULY 2016</u>		
Details	Amount (Shs)	Amount (Shs)
Expected Revenue		460,000,000
Expected machinery costs		<u>(160,000,000)</u>
Expected Gross Income for the month		300,000,000
<u>Less Expected Operating expenses:</u>		
Salaries and wages	25,000,000	
Insurance and loan interest Repayment	10,000,000	
Machinery depreciation	32,000,000	
Other operating expense	<u>64,000,000</u>	
Total Operating Expenses		<u>(131,000,000)</u>
Net profit before taxation (NPBT)		169,000,000
Less Taxes		<u>(29,000,000)</u>
Expected Net Profit after Tax (NPAT)		<u>140,000,000</u>

Expansionary Budget for Kamasu Contractors Limited

KAMASU CONSTRUCTORS LIMITED P.O BOX 530, KAMPALA TE: 0414 526930 EXPANSIONARY BUDGET FOR THE MONTH OF JULY 2011 FOR SHILLINGS 60,000,000/=		
Items	Costs (Shs)	Total (Shs)
Fixed Requirements		
Purchase of more land	10,000,000	
Building of more premises	20,000,000	
Purchase of more vehicles	12,000,000	
Purchase of more furniture	6,000,000	
Legal charges on land purchase	2,000,000	
Purchase of more gum boots	<u>700,000</u>	50,700,000
Working Capital Requirements:		
Extension of electricity	2,000,000	
Extension of water	1,300,000	
Hiring & training of more labour	2,000,000	
Liquid cash	4,000,000	<u>9,300,000</u>
TOTAL AMOUNT		<u>60,000,000</u>

Note: Check the language used on expansionary budget especially the fixed requirements.

Steps in Operational Budget Preparations:

1. Selecting the business goals and objectives for the period to be budgeted for.
2. Setting the activities to be carried out and their timetable/timeframe.
3. Estimating the sales projections to be made.
4. Estimating the costs of goods/services to be sold/provided
5. Calculating the expected gross profit.
6. Estimating the operational expenses.
7. Charging the tax to the difference between gross profits and estimated operating expenses to get the tax payable.
8. Subtracting the tax from the Net profits to get the retained profit.

2. Financial Budgets: These outline how an organization is going to acquire its cash and how it intends to use the cash.

3. Master Budget: This is an overall financial and operating plan for a forthcoming calendar or fiscal year. It is usually prepared annually or quarterly.

QUALITY MANAGEMENT IN PRODUCTION:

Quality refers to the ability of a product to meet the customer's needs and requirement.

Quality Dimensions / Features:

Quality of a product or services consists of the following features or characteristics.

1. **Performance / Operation.** This is how well the product works. For example does a car accelerate and stop quickly?
2. **Reliability.** This reflects the probability of a product failing or deteriorating. For example does a car always start on a cold morning?
3. **Durability.** This reflects the length of time the product takes in use before it is replaced by another one. For example what is the life span of the car?
4. **Conformance.** This relates to the degree to which a product meets the pre-established specifications. For example are all seats of a particular car adjustable to suit the required specifications?
5. **Serviceability.** This refers to courtesy, speed and accuracy of repairs. For example, can a particular car be repaired quickly in case of any damage or failure to work?
6. **Appearance.** This reflects personal feelings and includes such variables as looks, touch, sound taste and smell. For example does a car look good in terms of shape, colour and size?
7. **Perceived quality.** Many products are judged by their brand names, images and advertising. For example, Mercedes Benz E-class.

Some Misconceptions about Quality:

Different people have different misinterpretations or misconceptions as regards quality of services and goods as seen below:

Price reflects quality. Other factors constant, it is assumed by many people that the higher the price, the higher the quality of the product and or service and vice versa. This however is untrue as goods are duplicated and charged highly when actually their quality is low. This can be seen today in phones, shoes, matchboxes etc.

Country or Place of Origin. Many people have a perception that items made from some countries or areas are of good quality as compared to other areas. For example it is believed that quality shoes come from Italy. This leads people to make shoes from Katwe (one of Kampala suburbs) and label them "made in Italy" and charge them highly.

Poor quality is blamed on workers. Employers often or at times blame their employees for the poor or low quality of the products. This is not true because quality in any organization is a combination of both the lower workers and the top management to blame for low quality.

Improving on quality requires more cash. It may be true that quality of products requires more investment but some time just giving clear instructions to the employees and inspecting them can improve on the quality of the product.

Brand name. A good brand name gives a good image and reputation to the company. This is why people today say that Nokia phones are better than say Siemens and others

Consumers view. Different consumers have different tastes and preferences. This, therefore make people to perceive quality differently and hence end up saying that this brand is better than that. E.g. people who take Bell beer will say that bell is better than Nile beer and the reverse is true.

Some Common Terms Used In Quality:

1. **Quality planning.** These are the various steps undertaken by a firm to achieve quality.
2. **Quality assurance.** This means the degree to which a product actually conforms to the design specifications.

3. Quality system. It refers to the organizational structure, procedures and resources which are needed to implement management.

4. Quality control. These are operational techniques and activities that are used to fulfill the requirements of quality. It also mean setting control for the process of manufacture or service delivery. It is aimed at preventing the manufacture of defective units or provision of defective services.

5. Quality policy. This means the overall intentions and direction of a firm with regard to quality.

Factors influencing Quality production:

1. Ensuring Customer education: This is necessary because it increases the chances that the product will be used for the intended purposes and in such a way that it continues to function properly and safe. Much customer education takes the form of printed instructions and labeling on the products.

2. Buying quality raw material: Leaving other factors constant if a firm buys quality raw materials to be used in the production, the goods produced will be of good quality but if the raw materials bought are of poor quality, the output will also be of poor quality.

3. Ensuring quality of design: This involves decisions regarding specific characteristics of a product or service such as the methods, material processes and equipment that will be employed. Design decisions must take into account the wants, needs of consumers, production and service capabilities, safety and liability both during production and after delivery and projected costs and profits.

4. Providing good working conditions: If the working conditions are favorable at the workplace, workers will always work hard to ensure quality products are produced. The working conditions may be in terms of, good feeding, fair and timely payments, job security etc.

5. Conforming to design: Once the design has been selected, the operation manager must ensure that operation follows through as intended. This involves concern of various areas like workmanship, inspection etc. and corrective action where necessary.

6. Carrying out market research: This involves finding out the needs of the customers and produce products that satisfy those needs. If the customers are provided with products having all the needed requirements, then this will imply quality on the customers' side.

7. Creating awareness of total quality management: This can be done by holding meetings in quality management with top management, suppliers, staff and customers to create awareness of the concept, highlighting the benefits of the concept. It must highlight the requirements for its success and emphasizing that it is everybody's responsibility to implement total quality management.

8. Providing a clean working environment: A clean environment in which a good is produced or service is rendered will maintain its quality. It is assumed that unhygienic environment will greatly affect the quality of the good or service. Therefore for quality products, a clean environment is vital.

9. Ensuring top management commitment and full involvement: This is a pillar towards the success of any organization plan. Top management commitment could be reflected in developing favorable policies like rewarding employees for excellence and innovativeness which will encourage them to work hard and ensure that quality goods and services and produced.

10. Having good, clean storage facilities: Where storage facilities for goods are available and in good conditions, quality of the goods in the same store will be maintained. This is because goods in most cases end up being spoiled in the stores.

11. Having good and beautiful product packaging: The packaging materials and the methods of packaging a product can affect its quality. Businesses have to pack their products well so as to reduce on the rate of spoilage and contamination with foreign bodies and elements which could compromise of the product quality.

12. Supplier partnerships: This should be developed to ensure that materials and other supplies are of the highest quality. Companies / firms should choose supplies based on consistent delivery of quality materials.

13. Forming quality circles: There should be formation of quality circles or groups among the employees who should also meet regularly to discuss problems of quality and ensure quality control and come up with suggestions for improvement and come up with quality products within the firm. This will also encourage the spirit of innovativeness and team coherence.

14. Having capacity building: There should be training of staff to perfect the skills in quality achievement and implementations. It can be done by training staff into research skills of customer needs and should involve everybody involved in quality management. This will enable enterprises to achieve quality goods and services and hence more customers.

15. Acquiring and using appropriate technology: Firms should adopt relevant technology to be used in the production of goods and services to meet the international standard and enable them compete on the world markets. The workers should where possible be trained on how to use these technologies.

16. Ensuring functional departments' commitment: For businesses to achieve quality products, all the functional areas like marketing, accounting, research, purchasing etc. should be committed to a culture of getting it right the first time. This can be done through improved inter-functional committees formal and informal meetings and discussions to come up with the right techniques of achieving quality products for the organization.

17. Using of quality assurance: Entrepreneurs and companies should include re-engineering and bench marking in their processes towards attaining quality goods and services in their businesses.

18. Using proper distributional channels to move the goods from the factory to the consumers.

19. Constant monitoring and Supervision: Management has to monitor the operations of the firm to see that workers do not divert from the set specifications and standards of the organization of ensuring quality.

20. Specialization and division of labour: Workers should be given the work where they have more experience and knowledge so as to produce quality output in the firm.

21. Setting and following the technical specification. If these are followed the way they were set, good and quality products will be produced in the company.

22. Giving of clear instructions to the workers and ensuring that they follow them while working in the firm.

23. By motivating the workers: If the workers are motivated say by paying the on time and in relation to the amount of work done, they will work towards producing quality products.

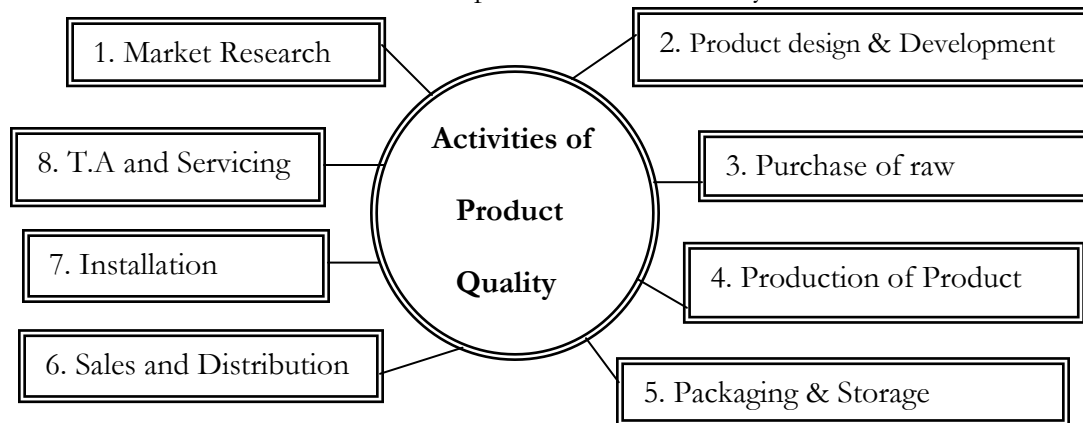
Bench marking Is the practice of establishing international standards of performance by looking at how world-class companies run their businesses and carry out innovative activities.

Elements of Product Life Cycle That Influence Quality:

In order to achieve high quality products, an enterprise should aim at having **ZERO** defects in all areas of the organization for all phases of the process. Therefore the activities of an enterprise that have an impact on quality are:

- | | |
|------------------------------------|--|
| 1. Marketing and market research. | 5. Packaging and storage. |
| 2. Product design and development. | 6. Sales and distribution. |
| 3. Purchase of raw materials. | 7. Installation |
| 4. Production of the product. | 8. Technical assistance and servicing. |

These activities can be presented schematically as below.



Importance of Quality:

- 1. It crates good reputation and image:** High quality products or services gain reputation on the side of the entrepreneur and the organization. Therefore producers should always aim at production of high quality products as this can increase on the market share for the organization.
- 2. It leads to international implication:** Quality products produced make it possible for the company to compete on international market.
- 3. It leads to reduction in cost:** Good quality products will reduce on certain costs incurred by the organization. The costs reduced may include rework costs, warranty costs, replacement costs.
- 4. It leads to increased market:** Quality products increases customer satisfaction through providing the required goods and in the end the customers will buy more of the products hence increased market or sales.
- 5. It is a pre-requisite to comply with quality standards:** It shows that the entrepreneur or manufacturers has complied with the quality standards prescribed or set by the relevant authorities and the customers in particular.
- 6. It enables selling goods at a higher price:** People always attach quality with high prices. Therefore when an entrepreneur produces high quality products, he can charge them highly and hence earning more sales and profits.
- 7. It leads to reduction in liability:** Organizations that pay special attention on quality always reduces on their potential liabilities due to damages or injuries resulting from faulty designs or workmanship.

PURCHASING SKILLS:

Purchasing means the process of acquiring materials and components needed for production and maintenance of business.

Key Principles of Purchasing:

Right delivery place: The products should be delivered at the right place in order to reduce the costs and time on the side of the buyer when carrying them to the end user department.

Right quality: The quality of the products should be the right one as required by the buyer and as agreed up during the signing of an agreement between the supplier and the buyer.

Right quantity: The amount of the products or items supplied should not be less than those that was agreed upon. The amount to be supplied is determined by the user department.

Right time: The items required should be supplied at the right time to enable the user be able to use them at the appropriate hour. Therefore good timing for purchase is essential to avoid late supply and running out of stock due to late supply which may lead to stoppage in production.

Right price/ costs: The items to be supplied should not be inflated to deny or deprive the user value for money.

Right supplier/ source: The products should be supplied by the right agreed upon person and source. This comes as some countries prohibit importation of some goods from some countries due to some reasons. The reasons may be poor quality, political differences etc.

Factors to Consider When Choosing Suppliers of Raw Materials:

1. Terms and conditions of payment: One would choose a supplier whose terms of payments are reasonable. These terms may include credit purchase or cash basis. In most cases, producers prefer suppliers with favorable terms that may include discounts, credit facilities etc.

2. Lead time: This is how long it will take to order and receive the goods needed. An entrepreneur should therefore select a supplier who can deliver the required items on time.

3. Mode and transport availability: The buyer should consider the mode of transport depending on the nature of the items to be purchased. One should also consider whether the goods are bought locally or internationally as the transport costs will vary.

4. Taxes charged: The taxes charged on the product will have an impact on the price of the same product. Therefore one should look at the different taxes charged both in the supplier's country and the buyer's country and one should choose a supplier where taxes are not too much.

5. Quality of the material to be supplied: This comprises of the features which are relevant to the ability of the materials to meet a given need as specified by the buyer during the time of looking for the materials. Therefore the choice of supplier should look at the quality, as garbage in garbage out i.e. poor quality bought will result in poor or low quality of products.

6. Price comparison/ cost of the materials: Different suppliers have different prices; therefore the buyer should consult different suppliers to select one whose prices are friendly and cheap. However price should go hand in hand with quality of the materials.

7. Quantities available for supply: The buyer should select a supplier with sufficient or enough quantities to enable constant supply of the material. If the quantities are few, they may be forced to look for another supplier in the middle of production process which may be expensive in terms of costs and time given the procurement procedures to pass through.

8. Ease of communication: An entrepreneur should choose a supplier whom he / she can easily communicate to or access whenever there is need for any supply of the inventory items.

9. Risk of damage: It would be wise to buy raw materials that do not easily get damaged as this can increase the costs of production.

10. Raw material location: The location of raw materials to be used in production is very vital as if they are near the factory, production costs can be minimized as compared to those which are far from the plant. This is most likely to increase the transport cost and hence final price.

11. Amount of raw materials to be held in store: This may depend on the company as others will balance the costs involved in holding a lot stock in store and the costs of continuous ordering for the same raw materials. Others however will consider the rate at which the finished goods are sold and if the rate is high, then they are most likely to have a lot of raw materials in stock.

12. Level of material wastage: Businesses prefer to use raw materials with less level of wastage so as to reduce on the costs of acquiring the same materials and also reduce of the production costs.

13. Amount of units of raw materials used per production cycle: If the business uses more units in its production, more units of raw materials shall be used but if less units are used then less units shall always be bought.

Purchasing Procedures:

1. Receiving of material requisition form: This is raised by the department in need of materials. It is raised to the stores department and if the materials in store are not enough, then an officer in charge of store will inform the purchasing department about the need for materials. The materials requisition form will normally include quantity of materials required, expected date of delivery, the person responsible who has signed the material requisition form.

KAMPI HOLDINGS LTD P.O BOX 4544, KAMPALA TEL: 0703086760 <i>Producers of good quality natural water</i>			
Number:.....		Purchases Requisition Form	
Date:.....			
Required by:.....		Department:.....Date required:.....	
Material Description	Code No.	Quantity Required	Remarks
Requisitioned by: Signature:.....		Approved by: Signature:.....	
Name:.....		Name:.....	
Title:.....		Title:.....	
Date:.....		Date:.....	

2. Making of an Inquiry: On receiving a purchases requisition, the purchases department sends letters of inquiry to different suppliers requesting them to quote prices for the supply of materials mentioned on the letter. Sometimes, the purchasing department may maintain a list of suppliers from whom to choose the suppliers for the required items.

KAMPI HOLDINGS LTD. P.O BOX 4544 KAMPALA TEL: 0752 833909	
KAMPALA STATIONERS LTD PO BOX 3004 KAMPALA	AN INQUIRY
Inquiry No. P/2094 Date: 21 st March, 2020	
Dear sir/ madam, Please quote us your prices, terms of payment and terms of delivery for the items below.	
QUANTITY	DESCRIPTION
50 English dictionary 10 Boxes	Longman Coloured chalk
Your faithfully Kinene Dogo Purchasing manager	

3. Receiving of Quotation: After receiving an inquiry, the producer/ supplier responds by sending a quotation which will clearly state the price, product specification, lead-time, terms and condition of payment and warranties if any.

KAMPALA STATIONERS LTD P.O BOX 3004, KAMPALA TEL: 0703086780			
KAMPI HOLDINGS LTD P.O BOX 4544 KAMPALA		No: B309 Date: 22ND MARCH, 2020	
QUOTATION			
Dear sir, In response to your letter of inquiry No. P/2094, dated 21 st MARCH, 2020, the details are below.			
Quantity	Description	Unit Price (Shs)	Total Price (Shs)
50 Copies	English Long man dictionary	40,000	2,000,000
10 Boxes	Coloured chalk	8,000	80,000
Delivery/ Payments: Three days from receipt of your order and 50% down payment and the balance within 30 days after delivery Discount: 2% on cash balance if paid within the specified time. We look forward to receiving your order.			
Yours faithfully Gaali Enkoseeko Sales Manager			

4. Placing of Purchases order: This is a document that authorizes the selected supplier to go ahead and supply the inventory items. It is normally prepared in copies where the original copy is sent to the supplier and the other duplicates sent to the receiving, finance and the stores departments.

KAMPI HOLDINGS LTD P.O BOX 4544 KAMPALA			
TEL: 0752 833909 KAMPALA STATIONERS LTD P.O BOX 3004, KAMPALA		Date: 23 rd /04/ 2020 Order No. 507 Delivery date: 30 th /04/ 2020	
LOCAL PURCHASE ORDER			
Dear Sir, Please supply and deliver the following items.			
QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT (SHS)
50 Copies	Longman dictionary	40,000	2,000,000
10 Boxes	Coloured chalk	8,000	80,000
Enclosed is a cheque No. 0092018302 for Shs. 1,040,000, 50% deposit. Delivery and discount terms are as per your Quotation No.021 dated 22 nd March, 2020			
Your faithfully: Kinene Dogo Purchasing Manager		Authorized by: Kabotoongo John Director Managing	

5. Sending of Goods Delivery Note: This is a document sent to the buyer alongside with the goods. On receiving this document with the goods, the goods should be checked properly to ensure that quantity specifications tally with the physical goods received. If on inspection goods are accepted, a goods received Note is raised. A person responsible for receiving these goods will sign both the Delivery Note and Goods received Note and thereafter goods sent to the store.

KAMPALA STATIONERS LTD P.O BOX 3004, KAMPALA TEL: 0703086780		Note No. 37907 Date:.....
To:..... M/S:.....	DELIVERY NOTE	
Please receive the following goods / items in their good condition.		
Quantity	Description	
I have received the above goods in their good conditions. Received By: Signature:..... Name:..... Title:.....		

6. Sending of Package Sheet: When the supplier packs goods to be supplied to the customer, he will always send them with a package sheet showing the goods packed. If the goods are packed in three containers, three package sheets will also be prepared. This sheet is prepared in quadruplicate, the original placed inside the case, a copy sent to the buyer with the delivery note, a copy to the accounts department and a copy retained by the suppliers for future records.

KAMPALA STATIONERS LTD POBOX 3004KAMPALA TEL: 0703086780				
No. 3902 TO: P.O BOX TEL:	PACKAGE SHEET			
Date:				
This package contains the following goods / items				
No.	Description	Quantity		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Packed by: Signature:..... Name:..... Title:..... </td> <td style="width: 50%; border: none;"> Checked by: Signature:..... Name:..... Title:..... </td> </tr> </table>			Packed by: Signature:..... Name:..... Title:.....	Checked by: Signature:..... Name:..... Title:.....
Packed by: Signature:..... Name:..... Title:.....	Checked by: Signature:..... Name:..... Title:.....			

7. Preparation of the Goods Received Note: This is sent alongside with the goods and signed by the person receiving the goods from the supplier. It is prepared in triplicate, one copy sent to the accounts department to await the arrival of the invoice and provide evidence of the safe arrival of goods. The second copy to the stock control section for entering the receipt of goods on the stock control card and the last copy to the purchasing department.

KAMPALA STATIONERS LTD. P.O BOX 3004 KAMPALA TEL: 0703086760						
Purchases Order No. 507		GOODS RECEIVED NOTE			Number: 780	
Received from					Date:.....	
I have received the following goods / items in their good conditions						
Serial No.	Description	Code No.	Stock Code No.	Quantity	Rate (Shs)	Amount
Counted by:.....				Approved by:.....		
Inspected by:.....				Received by:.....		

9. Returning of Rejected items: In case some of the goods received are damaged or do not conform to the specifications, they are returned to supplier. Goods may be returned due to poor type, wrong colour, wrong size, damaged in transit etc.

KAMPALA STATIONERS LTD P.O BOX 3004 KAMPALA TEL: 0703086760		
TO:		GOODS RETURNED NOTE
		No: 0092 Date:.....
Please accept the following goods as returned		
QUANTITY	DESCRIPTION	REASON
Please issue us with a Credit Note. Signature:..... For: Kampala Stationers Ltd		

10. Sending the Debit Note: This is from the buyer to the seller showing the goods returned plus the reasons for the return. This may be due to overcharge, wrong goods supplied among other reasons and asking the supplier to reduce the amount demanded from the buyer.

KAMPI HOLDINGS LTD PO BOX 4544 KAMPALA Tel: 0752 833909		
To: KAMPALA STATIONERS P. O BOX 3004 KAMPALA	DEBIT NOTE	Note No. 4/89 Date: 10 th /04/2020
Details/ Description	Per Unit	Total
50 copies of Longman dictionary Less 5 copies not required	40,000	2,000,000 <u>(200,000)</u> 1,800,000
Signed by:..... For: Kampi Holdings Ltd		

11. **Sending of the Credit Note:** This is a document sent by the seller to the buyer notifying him of the reduction in the amount he owes to the seller due to an over charge made on the invoice or good supplied have been returned to the supplier.

KAMPALA STATIONERS LTD PO BOX 3004 KAMPALA TEL: 0703086760		
To: KAMPI HOLDINGS LTD P. O BOX 4544 KAMPALA	CREDIT NOTE	Note No. 4/89 Date: 10 th /04/2020
Details/ Description	Per Unit	Total
50 copies of Longman dictionary Less 5 copies not required	40,000	2,000,000 <u>(200,000)</u> 1,800,000
Signed by:..... For: Kampi Holdings Ltd		

11. **Preparation of an Invoice:** This is prepared by the seller to the buyer indicating the total amount of goods sold to him/her on credit. It will show the type of goods, unit price, total amount, quantity sold/supplied and the terms of payment.

KAMPALA STATIONERS LTD P.O BOX 4544 KAMPALA TEL: 0703086760			
TO:..... P.O Box:.....	SALES INVOICE	Invoice No: 3012 Date:.....	
Quantity	Description	Unit Price (Shs)	Total Amount (Shs)
Signed by:..... For Kampala Stationers Ltd			
E&OE Terms: 10% Discount if paid within one month.			

12. Raising Cheque payment voucher: This is prepared after all the corrections have been made and there is need to pay the supplier for the goods received. It is followed by the cheque in the names of the supplier and hence closing the transaction process with all document stamped on **PAID**.

Cheque Payment Voucher KAMPI HOLDINGS LTD PO BOX 4544 KAMPALA Tel: 0752 833909 CHEQUE PAYMENT VOUCHER	
No.....	Voucher No: 8091
Cheque No:.....Date:.....	
PARTICULARS	AMOUNTS
TOTAL	
Prepared By:	Date:
Checked By:	Date:
Authorized By:	Date:
Received By:	Date:

13. Preparation of the Cheque: When all corrections in the invoice have been made and a cheque payment voucher has also been made, a cheque in the names of the supplier shall be written to effect the payment for the goods supplied or services rendered. See the sample below for the cheque.

Cheque Sample			
Date:.....	GLOBAL TRUST BANK KAMPALA ROAD BRANCH	000453	06200000069
To:.....	Date:.....		
Old Bal:.....	Pay:.....	A/C Payee Only	Or Order
Deposit:.....	Ugandan Shillings:.....		UGX
Total:.....			
Total:.....	KAMPI HOLDINGS LTD		
New Bal:.....	000453	06200000069	

}

 Cheque Foil

Programme For Purchasing Business Goods:

BADO POULTRY FARM P.O BOX 435, KAMPALA TEL: 0752 833909 PROGRAMME FOR PURCHASING BUSINESS GOODS:			
Date	Activities	Person(s) in Charge	Remarks
	Determining the business needs		
	Identifying the potential suppliers by sending letters of inquiries		
Do fill in	Receiving quotations from the potential suppliers.	Fill in	Leave It empty
	Contacting the potential suppliers.		
	Sending the Order Note for goods supply		
	Checking the goods on arrival		
	Crossing checking the invoice for accuracy		
	Raising the cheque payment voucher with a cheque for payment of the good.		
Prepared by: Signature:..... Name:..... Title:..... Date:.....		Approved by: Signature:..... Name:..... Title:..... Date:.....	

TYPES OF INVENTORY:

Inventory refers to the goods held by the business for sale. The types include:

- 1. Raw materials:** These are the goods which are not yet committed to production process. They may still be in the store of the business.
- 2. Work-In-Progress (W.I.P):** These are partly finished goods which are held between manufacturing stages. They have been committed to production process but have not yet been completed.
- 3. Finished goods:** These are completed products ready for sale or distribution. They can be sold directly to the retailers or the final customers.
- 4. Service materials:** These are materials for maintenance purposes like cleaning oil, etc.
- 5. Consumables:** These are items that aid in the production of goods or services. They are not part of finished products. They are sometimes referred to as Support inventory. For example fuel and stationery.

Inventory Management:

Inventory management is the process of efficiently overseeing the constant flow of units into and out of an existing inventory.

Costs of Holding Inventory:

- 1. Ordering costs:** These are costs of placing an order with the supplier. The greater the quantity ordered, the less the ordering costs. Examples include costs of transport / delivering items, costs of placing materials to the store, administrative costs of paper work, costs of contacting supplier.
- 2. Holding/carrying costs:** These are costs of keeping stock in the store. Examples include, insurance costs, costs of rent, lighting, costs of depreciation of items, costs of capital held in inventory (opportunity cost).

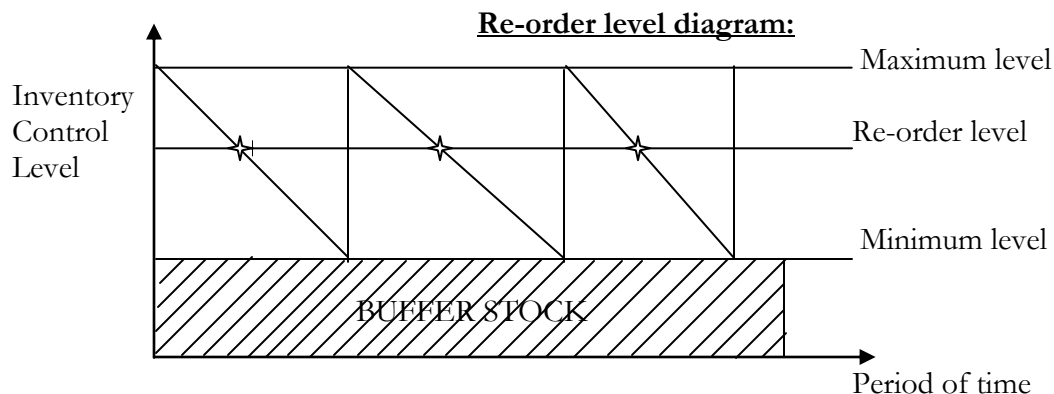
3. Stock out costs: These are costs that a firm meets when it gets inventory shortages i.e. when they run out of stock for sale. They include loss of future sale, cost of stoppage in production, damage of original reputation, costs of failing to fulfill emergence orders.

The Major Objectives of Inventory Control/ Management:-

- 1. To meet demand fluctuations:** Fluctuations in demand are common therefore there is need to maintain suitable stock for safety to absorb variation in demand from customers.
- 2. To allow flexibility in production:** There is need to allow flexibility in production scheduling and marketing as keeping higher levels of finished goods relieves the pressure on the production system.
- 3. To minimize financial investment in inventories:** This refers to the capital being blocked in the inventory. Capital required in carrying inventory costs, money and holding assets in form of inventories results into decreased liquidity.
- 4. To maintain timely records of inventory:** There is need to maintain timely records of inventories of all items and maintain stock within the desired limits.
- 5. To prevent of inventory theft:** Inventory need to be protected or prevented from theft, wastage, loss, damage and unauthorized use by organization workers or any other person.
- 6. To reduce holding surplus stock:** It is necessary to avoid excessive stocking and take appropriate measures to bring stock down to a reasonable level, hence reducing investment in stock which may deny taking money to other activities which would bring in more money.
- 7. To minimize the value of consumed materials:** Proper control of materials from the time orders are made with the suppliers up to when the materials are used is important.
- 8. To provide the desired level of customer service:** Customer service refers to a company's ability to satisfy the needs of its customers. Therefore companies hold inventory items such that they are able to satisfy their customers whenever need raises.
- 9. To achieve cost-efficient operations:** Inventories can allow a company to maintain a level or work force throughout the year even when there is seasonal demand for the company's output. At the same time large purchases of inventory might qualify for quantity discounts which will also reduce the unit cost of each item.

Techniques of Inventory Management:

Re-order level: It is a system where a replacement of inventory is made such that delivery of the items will be made when stock levels are at minimum. An inventory manager fixes a minimum level below which stock should not fall before ordering for new stock. When stock reaches the set minimum level, a new order is made.



Periodic Review system/ fixed time-re-ordering: This is a system where an inventory manager will always fix particular periods for checking on the level of different stock items for example every

first day of the month, every Monday of the week for first moving consumer goods. If he finds the stock below a specified level, he will make an order. This system is also called Top up system.

Profitability Technique: Here the inventory manager bases on consumption in previous corresponding periods to determine how much to buy. For example if during the last Christmas period he sold a lot of beer and got much profits, then this Christmas period will buy and stock much beer but if the sales were less and made less profits, he will stock less.

ABC System: The system focuses on categorizing inventory items basing on a given value of stock, turnover rate for an item. For example if the rate of turnover of an item is high, he will always stock much stock for the same item.

Economic order quantity: It is an optimum level of stock to a company. The precise level of this will vary in different firms and industry. Therefore a particular firm will have to balance between the costs of holding stock and the cost of ordering for the same stock.

Just –In –Time Method: This is a purchasing and control method in which materials are obtained just in time for production to provide finished goods just in time for sale. The system only requires goods or services when the customer requires it.

Ways / Tools Used To Control Inventory in Store:

Physical stock taking: This is where the available stock is physically counted to determine what is available and cross check with what is expected to be on the stock card to enable the storekeeper know the remaining amount of stock.

Inventory labeling: This is probably the most important. Especially if you have a large warehouse of merchandise, it is absolutely essential that everything is clearly labeled so that all replenishment stock can be placed in the proper area with no hesitation or uncertainty, and also that any outgoing merchandise can easily be located for shipping or sale.

Using purchases requisition document/ form: This originates from the stores to the purchasing department indicating the various items needed in the store. Normally the purchasing department bases on this to make purchase orders. See the format on page 207.

Stock reconciliation: After carrying out physical stock taking, if any discrepancy was found it has to be corrected so as to help the store keeper make fresh orders or not.

Stock rotation: When new stock arrives, it is filed into the inventory kept in the warehouse behind any current stock of the item. This allows for older inventory to move out to the sales floor or to the ordering customer first. When you rotate stock, you keep out any of your inventory from becoming outdated and useless. Therefore, stock rotation is one of the most important inventory techniques you can employ to achieve success in stock control.

Stock valuation: This refers to the determination of the costs of the inventory items in the company. The inventory items that are valued are raw materials, work-in-progress, finished goods and any other inventory items. Therefore stock can be valued to determine their costs.

Store Record Card: This is a document where information regarding items kept in the stores is recorded. It has the following details: materials received and date of receiving them, costs of materials received and quantity, description of quantities issued out and the remaining balance.

Stock Record Card Sample

MBAATA TRADING CO. LTD P.O BOX 5420, KAMPALA STOCK RECORD CARD											
TEL: 04142894290											
Name of item:.....										Item No.....	
DATE	RECEIPT			ISSUES			BALANACE			ISSUED TO	AUTHORIZ ED BY
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount		
Method of Issuing: First In First Out (FIFO)											
Recorded by: Signature:..... Name:..... Title:..... Date:.....						Checked by: Signature:..... Name:..... Title:..... Date:.....					
} Fill in						} Do not fill in					

Stock Requisition / Issue Form: It is a well-prepared document that is required by the storekeeper to issue out materials from the store. It should bear the following information: Date when it is raised, person who originated it from the user department, quantities required and the authorization officer.

MBAATA TRADING CO. LTD P.O BOX 5420, KAMPALA TEL: 04142894290	
No: 250	STOCK REQUISITION
Date:.....	
Please issue the following materials from the store	
QUANTITY	DESCRIPTION
Required by:..... Position:..... Signature:..... Date required:.....	

Stock control sheet: This is also used to determine the amount of inventory items in the store of the business. It is very vital in any business that holds stock items in their store. It works in the same way like a stock card.

MBAATA TRADING CO. LTD P.O BOX 5420, KAMPALA TEL: 04142894290					
STOCK CONTROL SHEET					
Product description:.....				Unit Weight:.....	
Date	Receipts	Issue	Closing Balance	Description	Sign
Recorded By: Signature:..... Name:..... Title:..... Date:.....			Checked By: Signature:..... Name:..... Title:..... Date:.....		
} Fill in			} Do not fill		

STOCK CONTROL SYSTEM:

Stock control system is responsible for the correct establishment of stock levels for every item held in an organization. The system takes care of the response to customer requirements in form of re-order levels, minimum levels and maximum levels. There are basically two forms of stock control systems; namely the Manual and Computerized system.

Manual system is where adjustment of stock levels and other activities in the management of supplies are performed manually like manual stock taking.

Computerized system is where a computer is programmed to perform the functions of adjusting the stock records automatically. However the quality of the data and efficiency of the system depends on the people entering the data or information.

Need For Inventory in an Organization:

Need for inventory means the reasons as to why it is necessary to have inventory stock in business.

1. To avoid loss of sale especially when the customers demand for goods.
2. To reduce ordering costs like typing costs, mailing, transport costs.
3. To achieve efficient production run so as to avoid shortage of raw materials during production.
4. To meet speculations about future prices.
5. Appreciating items since some items the longer they stay in stock, the more value they gain.
6. For promotion purposes whereby during the promotion period the business cannot know how much the customers will demand and therefore the need to have much inventory.
7. Due to long lead-time, some items take long lead-time, organizations may keep them to avoid so
8. Due to seasonality issues where due to changes in the weather conditions, we cannot know how much we shall harvest during a particular season or period and therefore the need to enough or some inventory items in the stores such that during a bad season we have some items for sale or use the production chain.

PRODUCTION MACHINERY FOR GOODS:

The range of resources bought by organizations varies largely depending up on many factors that differentiate organizations. The bought out/ purchased items may include: capital equipment, raw materials, components, merchandise, and in many firms services.

Different Types of Capital Items Bought By Firms:

Buildings: These are permanent construction on site to house or enclose equipment and personnel employed in industrial, institutional or commercial activities.

Installation equipment: These include plants and machinery or other major equipment used directly to produce the organization's goods and services.

Accessory equipment: These are durable major equipment used to facilitate the production of goods and services or to enhance the operation of a firm. Examples include motor vehicles, motorcycles, etc.

Operating equipment: These category includes semi-durable minor equipment which are moveable and use in but not generally essential to the production of goods and services. E.g. gum boots, gloves etc. their absence cannot stop production to take place.

Tools and Instruments: These are semi-durable or durable portable minor equipment and instruments required for producing, measuring or calculating associated with the production of goods or services. E.g. tape measure, weighing scale, ruler, T-square for carpenters etc.

Furnishing and Fittings: These are the goods and materials employed to fit buildings for the organizational purposes but not specifically used in production. E.g. floor covering, carpets, furniture, shelves and counters etc.

Factors to Consider When Buying Capital Equipment:

Purposes of the equipment: The prime purpose of buying the equipment should proceed on other uses before buying capital items.

Flexibility: This deals with the versatility of the item i.e. can the item be used for other purposes other than those it was bought or acquired for.

Compatibility: This is to do with the ability of the item to be used with the already existing machinery or items. It would not be wise to buy items which would necessitate throwing the already existing.

Reliability: It is better to buy items that will not easily break down as this can cause delays in production process.

Guarantee from the manufacturer: Before buying and acquiring machinery, the buyer would look for a manufacturer / supplier who can offer guarantee in terms of repair in case it is damaged with a specified period, replacement in case it does not work or fit with those already available etc.

Durability: Most buyers of capital equipment prefer buying those that can be used for a long period before they are beyond repair.

Cost of maintenance: Items bought should not be expensive to maintain, e.g. items whose spare parts are hard to get locally, items whose technology is hard to get or copy would not be good to be bought by an organization.

Costs of installation: It is very important to ascertain whether the purchase price includes installation costs or not. This is because for some capital items the cost of installation is very high.

Miscellaneous factors: These include; space requirement for the item, safety aspects, issues to do with the environment in terms of noise, air pollution etc.

Operation costs: This need to be looked at as the operation costs of the equipment should be low and affordable by the firm.

Initial costs of the items: The costs of buying the capital items should be relatively low and affordable but not expensive.

Production capacity of the machinery: The production capacity should be high to match with the current demand for the products so as to enable the entrepreneur also meet his/her customers' demand but if it cannot meet the demands, then the items should not be bought by the firm.

Guarantee given by the manufacturer: It is better to buy items from manufacturers who can offer guarantee such that in case of any problem then the entrepreneur can run to the suppliers for a replacement or repair.

Sources of machinery and equipment: This should be reliable than not reliable source of these items.

Complexity of the work to be done:

Productivity and efficiency of the items:

Policy Guidelines for Handling Machinery:

1. Employees shall not start any machine of which its operation is not known as it may cause accidents
2. Oiling and lubrication of machines shall be done according to instructions from the manufacturer or supplier or manual.
3. In case of any machinery break down during use, the employee(s) shall report to the immediate supervisor.
4. Employees shall not directly use or allow the use of machines for other activities other than the officially approved one by the company.
5. All machines shall be installed with warning devices in case of any danger.
6. Movement of heavy machines shall be done with the help of cranes or lifts or other devices.
7. No employee shall remove company machines without permission from the authority.
8. Access to machines by unauthorized persons is strictly prohibited.
9. Employees shall check the machine to ensure that all levers are in proper position before switching them off.
10. Employees shall ensure that machines are stored in places free from moisture to avoid rusting.

Service Schedule for Business Machines:

Business Name And Address						
<u>Service Schedule For Business Machines</u>						
Date Of Service	Type of Machine to be Serviced	Nature of the Service	Technician to Service	Venue of the Service	Date of The Next Service	Remarks

Designed by:

Signature:.....

Name:.....

Title:.....

Approved by:

Signature:.....

Name:.....

Title:.....

} Fill in

PLANT LAY OUT DECISION:

Plant lay out is the arrangement of machines, workstations, storage areas etc. in an already existing or proposed facility to ease the production process or the offer of the services. A facility layout has an implication on quality and productivity.

Principles of Plant Layout:

- 1. Integration of all factors:** The plant should integrate all the essential resources of men, machines and materials in order to give an optimum level of production.
- 2. Minimum Movement:** The less the movement of men, machines and materials, the less will be the cost of production. Thus, minimum movement of these resources will provide cost efficiency.
- 3. Unidirectional flow:** All materials should progressively move towards the same direction i.e. towards the stage of completion. Any back-tracking should be avoided here.
- 4. Efficient space handling:** The space used up during the plant work also costs money as more the space required, more will be the floor rent. The materials should be organized in stacks in a proper and recognizable order to maintain space efficiency.
- 5. Inherent safety:** The environment of the plant should be safe for the workers as well as the machines. There should be fire extinguishers and fire exits placed strategically. There should be minimum contact of the labour to toxic chemicals and environment.
- 6. Maximum observation capacity:** The layout of the plant should be in open such that all of its resources and workforce can be observed and evaluated at all points in time. This helps in better supervision of work and helps in increasing both effectiveness and safety.
- 7. Maximum accessibility:** The layout of the plant should ensure that all essential resources are accessible to the labour and machines without any delay. The aisles should be free from obstacles. The materials should be placed as close to the machines concerned as possible.
- 8. Minimum Handling:** The ineffective handling of materials leads to a rise in cost. Materials should be handled in stacks and transferred in one go. Handling of a material twice in the same direction must be avoided to avoid delays and costs.
- 9. Maximum protection:** The layout should ensure the protection of the materials and machines while they are in the working or the storage stage. The security system should be efficient without making too many doors or barriers.
- 10. Maximum flexibility:** The plant layout should not be rigid and permanent. If the need arises, the plant layout should be able to change itself without being expensive.
- 11. Disposal site:** When deciding on the plant lay out, it is also important to consider an area for disposal of waste from the factory than dumping the waste anywhere.
- 12. Room for expansion:** It is important to put in mind the space for future expansion of the business. This is because as more customers buy the products, more money comes in and this provides the need to expand the facility to match increasing demand for the products.
- 13. Storage facilities:** There is also need to consider room for storing materials in terms of raw or finished goods.

Determinants of Plant Layout Design:

- ✓ **Human needs:** While deciding on the plant layout, human needs or requirements should be considered. These needs include toilets, washing rooms, drinking water facilities; all these should be arranged adequately for the employees and other people within the organization.
- ✓ **Safety arrangements:** While designing the plant layout, human safety should be looked at with care. It should be planned to allow free flow of people, goods and raw material in and out of the factory. It should have enough ventilation, light for sight etc.
- ✓ **Easy repair and maintenance:** The layout should be properly designed so as to allow engineers have easy movement or access to machine for repairs and maintenance.

- ✓ **Factory building:** The nature and size of the buildings determines the floor space available for layout. In designing special requirements for air conditioning and dust control, the nature and size of the building must be considered.
- ✓ **Plant environment:** It is better to consider enough light in and ventilation to provide a conducive, health and safe environment for the workers.
- ✓ **Type of machinery:** Machines which are bought to be used for general purpose are always arranged as per process layout while those for special purpose or use are arranged according to product layout.
- ✓ **Nature and size of the factory:** This determines the floor space required especially in welfare facilities.
- ✓ **Nature of the product to be produced:** For uniform products, process layout is more suitable as compared to other forms.
- ✓ **The production process:** In manufacturing businesses, process layout can be more economical as compared to assembling firms where product line layout is better.

Elements of a good plant layout:

Security Section: The layout should have an area where security guards operate from and should be near the gate for the premises.

Parking Yard: The layout needs to have an area where company trucks and employees or visitors of the company can park their vehicles.

Receiving and Dispatching Section: There should be an area for receiving the firm's raw materials and where goods to be sold are delivered from.

Ware House Section: The layout should show a place where finished goods or raw materials for production are kept before use or selling them.

Machinery or Processing Section: This is where the production machinery is assembled to form the production process.

Maintenance Section: The layout should have an area where repair, cleaning and general maintenance of the company vehicles is done from.

Emergency Section: The layout should have an area for emergency exit by the workers in case of any fire outbreak in the business.

Production Section: This is an area where the actual production for goods takes place.

Welfare Facilities: There should be an area where workers can eat, have lunch and breakfast from, toilets, plus where workers can rest from in case one is not feeling well.

Generator Room: There should be a good ventilated room for generator plus a generator on standby in case power goes off so as to enable continuous production.

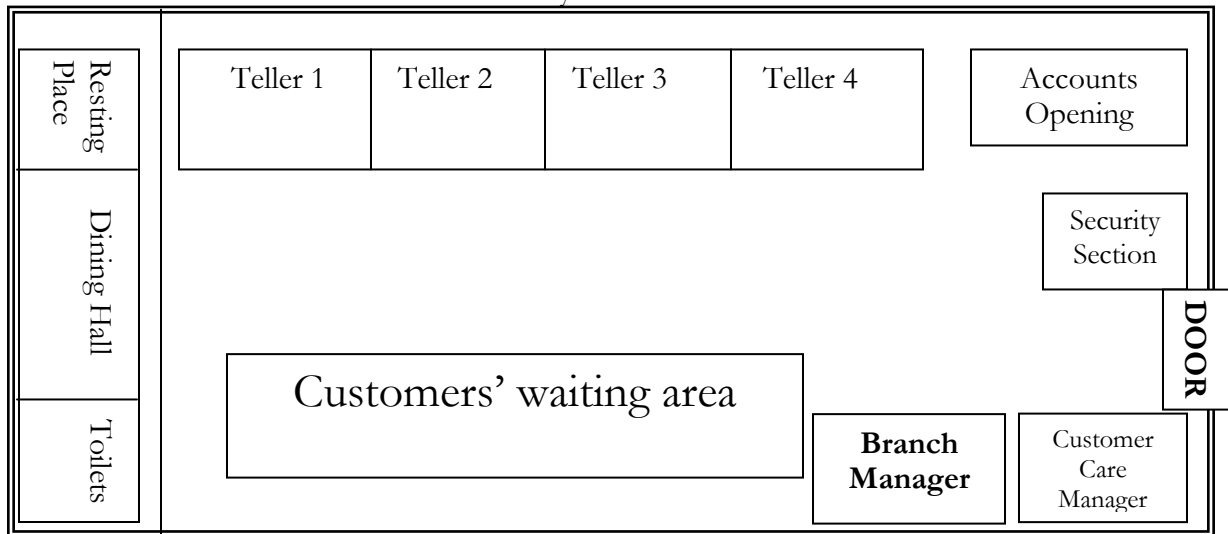
Waste Disposal Section: The firm should have an area where to dispose of the remains and unused parts in production. This needs to be well kept and maintained.

Advantages of a Good Layout:

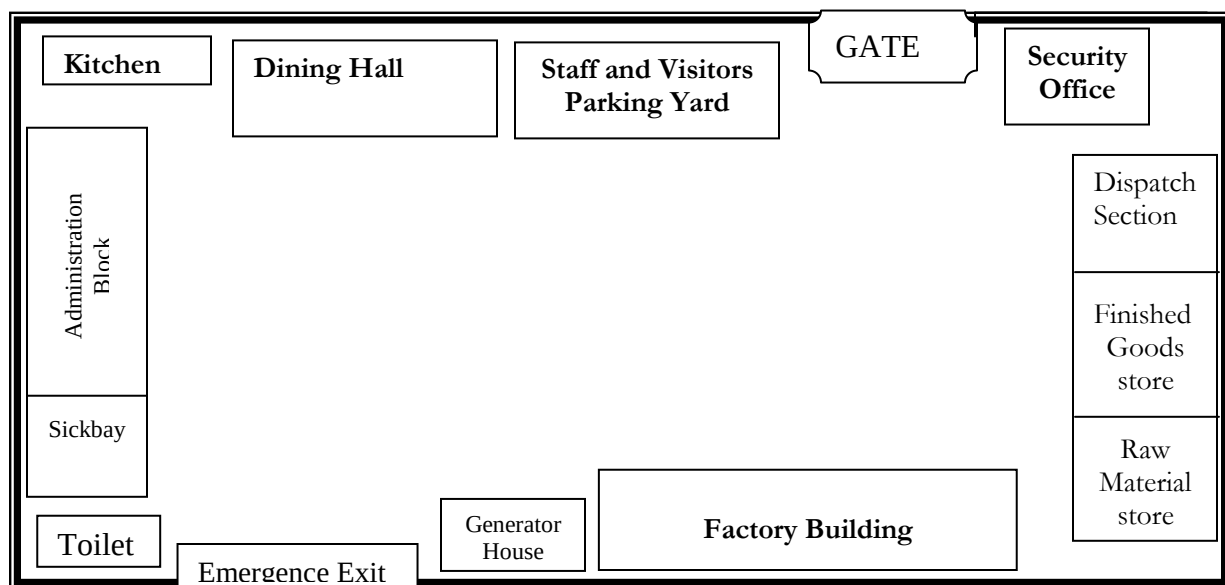
- ✓ It minimizes overall process time and costs. This is because of the reduced unnecessary handling, movement and general increase in effectiveness of all the work.
- ✓ It simplifies supervision and production control. This is achieved by elimination of "hidden corners" in which information and materials can be misplaced.
- ✓ It leads to feeling of unity among the employees. This will be encouraged by avoiding unnecessary segregation.
- ✓ It leads to high total output. This will be ensured by maximum effective use of available space.
- ✓ It leads to increased quality output. Quality of goods and services will be sustained by safer and better methods of production.

- ✓ It leads to accommodation of changes in organizational programmes since it was planned during the layout process.
- ✓ It leads to minimal discomfort on the side of the employees and employer due to the sufficient lighting, low or no noise etc.
- ✓ It leads to minimal rate of accidents because of safety precaution put in plans during the designing of the layout.

Plant layout for a bank:



Plant Layout for Manufacturing Firm:



Production Control:

These are activities involved in **handling materials**, parts, assemblies, and subassemblies, from their raw or initial stage to the finished product stage in an organized and efficient manner. It may also include activities such as planning, scheduling, routing, dispatching, storage, etc.

Aspects in the Production of Goods and Services:

A) Quality control. Quality control is a process that is used to ensure a certain level of quality in a product or service. It might include whatever actions a business deems necessary to provide for the control and verification of certain characteristics of a product or service.

B) Technology and Technical Skills: Technology is the process of applying the findings of science and other forms of enquiry to applied situations. Production technology therefore involves applying the work of researchers to develop new products and processes.

C) Production Processes: These are mechanical steps used to create an object, usually repeated to create multiple units of the same item. It involves the use of raw materials, machinery and manpower to create a product.

COSTS OF PRODUCTION:

Prime Costs: These are costs that are directly involved or charged to the production of the product. They include direct labour involved in production, direct materials plus other direct expenses.

Indirect Costs: These are costs which occur in the factory or other place where production is being done, but which cannot be traced to the items being produced. These include: wages of cleaners, rent expenses, depreciation of plant and machinery, factory power and electricity etc.

Total Production Costs: These are all the costs incurred in the production of the product. It includes the total of prime and indirect costs.

Administration Costs: These are the costs such as the managers' salaries, legal costs, secretary's salaries etc.

Selling and distribution Costs: These are costs involved in ensuring that the product is made available to the final consumer. They include salaries and commissions of the sales team, advertising expenses, hire of van to be used in advertising, transportation of goods costs etc.

Elements of Costing:

1. Direct Cost:

It is that element of cost in which we can include the cost of direct material and direct labour. If we take its total, it will be prime cost.

Direct Material Cost: Direct material is that material which we find in finished product and easily measures its cost. For example, for making furniture, woods are direct material and its cost will be part of direct cost.

Direct Labour Cost: Direct labour is used for producing the product. We pay wages to labourers for making product and this cost will be a direct labour cost.

Direct expenses cost: Except direct material and direct labour, all direct expenses will be direct expenses cost.

2. Indirect Cost

Overheads: When we cannot charge an expense directly on the product, we can say it is indirect expense or overhead. In overhead, we can include indirect material cost, indirect labour cost and other following indirect expenses. Manufacturing overheads, administrative overheads, selling

Rent and rates	1,200,000
Electricity	2,000,000
Depreciation of machinery	3,900,000
Repairs to factory buildings	1,300,000
Sundry expenses	900,000
Sales for the year	160,400,000

Required:

- a) Cost of raw materials used In production (c) Production of finished gods
- b) Prime cost (d) Gross profit (e) Cost of goods sold.

Costing Methods:

Job Costing: Under this method costs are ascertained for each work order separately as each job has its own specifications and scope. Examples: Painting, Car repair, Decoration, Repair of building

Contract Costing: Under this method, costing is done for big jobs which involves heavy expenditure and stretches over a long period and is often undertaken at different sites. Each contract is treated as a separate unit for costing. E.g. Construction of bridges, roads, buildings, etc. comes under contract costing.

Batch Costing: This method is used where the units produced in a batch are uniform in nature and design. For the purpose of costing, each batch is treated as a job or separate unit. Industries like Bakery, Pharmaceuticals etc. usually use batch costing method.

Operating Costing or Service Costing: Where the cost of operating a service such as nursing home, Bus, railway etc. This method of costing is used to ascertain the cost of such particular service. Each particular service is treated as separate units in operating costing.

Process Costing: This is used for the products which go through different processes. For example, manufacturing cloths goes through different process. First process is spinning. The output of spinning is yarn. It is a finished product which can be sold in the market to the weavers as well as used as a raw material for weaving in the same manufacturing unit. For the purpose of finding out the cost of yarn, the cost of spinning process is to be ascertained. The second step is the weaving process.

Multiple Costing: When the output comprises many assembled parts or components such as in television, motor car or electronic gadgets, costs have to be ascertained or each component as well as the finished product.

Unit costing/Single output costing. The method is used for products which can be expressed in identical quantitative units and is suitable for products which are manufactured by continuous manufacturing activity. Costs are ascertained for convenient units of output. Examples: Brick making, mining, cement manufacturing, dairy, flour mills etc.

Determinants of Costing Method:

The nature of the product or service: The costing approach designed for identical products is completely different from the one designed for different products because the processes and resources they require will never be the same.

The stages / processes the product passes through: Products that pass through a series of stages cannot have the same treatment as those which are not subjected to any stages. Therefore different costing methods can be designed to suit the different processes used by different companies.

Level of activity or Output: Identical and high volume output requires a cost method which is different from unique and single units that are produced to meet consumer's specific requirement.

Installation and Maintenance cost required: Systems that are required to capture and analyze production costs do not require the same costs. The costing method to be used in place by the firm may therefore be influenced by costs involved.

Time required completing the product: Products do not take the same time to make. It is therefore important for companies to design costing methods that suit the time duration of every product.

Measures To Reduce The Costs Of Production In An Enterprise:

1. **Allocating of duties and responsibilities:** Management can give responsibilities to the workers such that there is no duplicate work and also reduce conflict on the jobs by the workers which will consume time as resource.
2. **Studying the production technique:** The workers should study the methods of production to ensure that they can use them efficiently and effectively. This will make workers use the technique properly without difficulties and produce goods on time without learning on the job which consumes a lot of time and other costs like rent and salaries when they are not producing.
3. **Buying of cheap raw materials:** An entrepreneur should find favorable and cheap sources of raw materials. However, being cheap should not compromise the quality of the same raw materials. For example, if A sells raw materials at UGX 1,200 and the quality is poor and low, B at UGX 1,500 and C at UGX 1,800 but the quality of raw materials from B and C are high and the same, then we shall buy from B but not A as the quality is poor and C is costly.
4. **Using supportive facilities:** Supportive facilities like cranes, pulleys, G-clap should be introduced to ease and reduce the handling of goods by the workers and this can reduce the production costs.
5. **Having proper accountability of funds:** The cashier or the accountant should properly account for the funds received and paid out in the business and ensure that no money has been spent out without having been budgeted for and allocated for that expense.
6. **Controlling the lead time:** The time gap between ordering and receiving the raw materials should be minimized and controlled to ensure that there is no shortage of raw materials in the store to interrupt the production process. If the raw materials are not available, it will mean that there is no production and yet costs like rent costs, salaries or wages among others are being paid.
7. **Fixing of standard time for operations:** There should be setting of latest time to finish particular activities or an operation such that workers can work within that time limit and ensure that work is completed without delay. Where this is not done, workers may do work at their own interval and waste a lot of time on particular activities doing few work with a lot of time taken.
8. **Training of workers properly:** Workers should be trained to acquire the required skills needed to produce goods for the company without delay.
9. **Ensuring quality output:** Management must ensure that the goods produced are of quality and the consumers are satisfied with them. This will reduce costs of re-work, replacement after the customer has returned the product, being sued by the customer because the item has harmed him / her as a result of negligence by the company during the making of the product.
10. **Monitoring / supervision of the workers:** There should be constant monitoring and supervision of the employees of the organization to ensure that the workers do not waste time and resources of the business like raw materials and time.
11. **Separating of storage bins:** Management should separate and label bins well for storing both finished goods and unwanted items in the business. This will eliminate chances of workers putting the required goods together with unwanted items which can make the required finished goods being contaminated and hence reproducing them again which consumes resources.

12. **Encouraging specialization:** Specialization among the employees should be encouraged such that each one can do or work where he / she know better. This will enable workers to produce a lot of goods in a less time and hence saving time and eliminate the possibility of try and error method in production.

13. **Properly laying out the production process.** Arrangement of machines, workstations, storage areas etc. in an already existing or proposed facility to ease the production process or the offer of the services than delaying which consumes time and costs of the firm.

Specific Business Control Systems:

A) Cash: This is the money both in hand and in the bank for the business. Proper control of cash in a business is very vital to minimize cash theft, frauds among others. The following can help in controlling and minimizing all the above.

1. Receipting and counting all the cash received in the business plus balancing physical cash and cash records at the end of each day.
2. Documenting all cash payments and having it authorized by the entrepreneur personally or authorized official.
3. Controlling all cash receipts and payment vouchers plus other related documents for accountability and kept well and safely for reference.
4. Banking all the cash received in the business each day and the day's payments withdrawn from the bank.
5. Keeping the cash that remains in the business under lock or safe to ensure cash security.
6. Carrying out internal transfer in the accounting section by the entrepreneur than particular cashiers remaining in one place or office for a long time without any transfer.
7. Receiving the business bank statements regularly and reconcile it with its cashbook balance to see the actual balance at the bank.
8. Avoiding spending the firm cash by the entrepreneur on personal matters as the business is a separate entity from the owners.
9. Signing against the money received in cash payment voucher on receiving money to have evidence of paying and receiving the money.
10. Avoiding many people to receive and handle money in the business to limit or avoid money theft and frauds.
11. Employing qualified auditors at the end of the trading period to balance and audit the business books as inaccuracies can be found during this process and advises given on how to solve them.

How Proper Financial Management / Control Can Improve The Quality of the Products in an Enterprise:

- a) Using the funds available to purchase quality raw materials that guarantee production of quality products.
- b) Using the available funds to hire skilled personnel that can efficiently produce final goods.
- c) Using the available funds to carryout market research to gather information on product quality from customers and come to produce products of customers' wishes and needs/expectations.
- d) Using funds available in acquiring efficient distribution channels that can maintain the product quality up to the final consumer.
- e) Motivating of the employees by using monetary and non-monetary rewards as the workers will perform well on the job to produce quality products/services for the customers.
- f) Using the available funds to buy quality machinery and also clean service and repair the available one to ensure that they are in position to produce quality goods.
- g) Using the available funds to provide good storage facilities like stores or warehouse that can maintain the product quality.

- h) By using the available funds to renovate the business premises for quality service delivery or production especially for the service businesses.
- i) Using of the available funds to train the workers through seminars and workshops to equip them with the required skills to produce quality products.

B) Physical Assets: These are the resource held by the business at a particular period of time.

Ways of Controlling Fixed Assets of the Business:

- **Having Assets register:** A register book can be used to record the assets of the business like the furniture, computers, buildings, calculators etc. Review your physical assets regularly against your asset register and investigate any missing items. Make sure this is done irregularly not just on 30 June.
- **Labeling the Assets:** Company assets can be controlled by labeling them in the company names and assigning the some unique numbers for identification e.g. KSL/001/2014 etc.
- Physical security such as locking premises, using security cameras, safes etc.
- Restricting access to access codes for the asset by outsiders except trusted employees only.
- Changing computer passwords regularly.
- Avoiding giving one employee total control over a process.
- Making sure that there is an independent check on processes and procedures.
- Having firewalls and protective devises on computer systems.
- Having clear guidelines on personal use of assets of the company.
- Ensuring proper management supervision.
- Locking laptop to desks computers and data projectors as popular targets for theft.
- If your office entrance is located near the street or a staircase ensure hand bags and petty cash are well locked up at all times.
- Allocating a staff member to be responsible for any expensive items, ensure staff knows the location of the asset and lock it away when not in use.
- Reviewing your physical assets regularly against your asset register and investigate any missing items. Make sure this is done irregularly not just on 30 June.

Assets register book:

EMBOKO ENTERPRISE LIMITED P.O BOX 490, KAMPALA TEL: 0752833909 ASSET REGISTER BOOK: Sheet No. 076							
Date of Purchase	Asset Name	Quantity	Cost Price (Shs)	Depreciation Rate (%)	Life span (Years)	Current Value (Shs)	Recorded by
Checked by: Signature:..... Name:..... Title:..... Date:.....							

Internal Control for Small Businesses:

Internal controls are methods or procedures adopted in a business to safeguard its assets, ensure financial information is accurate and reliable plus assist in achieving the businesses' objectives

Purposes of Internal Control:

- **Helping align objectives of the business:** To ensure thorough reporting procedures and that the activities carried out by the business are in line with the business's objectives
- **Safeguarding assets:** Ensuring the business's physical and monetary assets are protected from fraud, theft and errors
- **Preventing and detecting fraud and error:** Ensuring the systems quickly identify errors and fraud if any and when they occur
- **Encouraging good management:** Allowing the manager to receive timely and relevant information on performance against targets.
- **Allowing action to be taken against undesirable performance:** Authorizing a formal method of dealing with fraud or dishonesty if detected.
- **Reducing exposure to risks:** Minimizing the chance of unexpected events in the company.
- **Ensuring proper financial reporting:** Maintaining accurate and complete reports required by legislation and management and minimizing time lost correcting errors and ensuring resources are correctly and efficiently allocated.

Benefits of Internal Controls System:

Good communication: Well-written documentation not only gets your message across, but also builds a picture of the culture and processes that have been established to ensure the firm meets its aims.

Education: The existences of internal controls help new employees learn the right way to do their job and the correct procedures needed to fulfill a task.

Error reduction: Good and clear internal controls procedures minimize errors and save time and money. It helps ensure business information is correct and that staffs are accountable for their actions.

Protection and authorization: Internal controls give comfort to staff that they have protection if they have acted in the way prescribed by the internal controls and within their authorization limits. The business cannot blame you if you have acted in good faith and within the guidelines specified.

Perceptions of detection: The existence of internal controls act as a deterrent for those considering fraud increasing the risk they will be detected.

TECHNOLOGY IN PRODUCTION:

Technology refers to the know-how, design and intellectual input of doing things. This means that technology can change from time to time. Technology is the process of applying the finding of science and other forms of enquiry to applied situations.

Types of Technology:

There are mainly two types of technology, i.e. Indigenous and advanced technology.

1. Indigenous Technology: Technologies employed by the native inhabitants of a country and which constitute an important part of its cultural heritage and should therefore be protected against exploitation by industrialized countries.

Characteristics of Indigenous technology:

- ✓ Indigenous technologies emerge from the implicate order to reflect the art of skillful living. Indigenous technology is pragmatic. It is responsive and responsible to the ecology in which it lives.
- ✓ Indigenous technologies attract the learning spirit(s) and provide a learning ecology that supports the revitalization and transformation of awareness and knowledge.
- ✓ Indigenous technology is intended to enhance the ability to maintain and renew balance and harmony within a multi-dimensional environment.
- ✓ Indigenous Technology is created within a sensory environment that builds on our sense of relationship, meaning, balance, feeling, memory and place as well as sight, sound, smell, taste and touch.
- ✓ Through meaningful interactions Indigenous technology seeks to engage and evoke significant knowledge and experiences reflective of the Indigenous world.
- ✓ Indigenous technologies have the obligation to come into existence, to be used and to transform within an ethical space that is responsible to life in all its forms.
- ✓ Indigenous technologies have intrinsic value because we know their ancestry where they came from, what their place is in our world.

2. Advanced Technology: This is the technology that has developed from modern science principles. It is also subdivided into three:-

Assistive technology: This refers to all equipment and technology, both hardware and software, that assist people who are blind, deaf blind or have low vision to access or participate in a particular activity or range of activities.

Transferred Technology: This is the process of skill transferring, knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities among governments or universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services.

Appropriate technology: Is the technology which is most suitably adapted to the conditions of a given situation. Or. It is the technology that is compatible with human, financial and material resources that surrounds its application.

Features of Appropriate Technology:

Flexibility: Technology changes almost every time therefore appropriate technology should be flexible enough to adapt to the changing needs of the company and prevailing environmental need.

Cost effective: The technology should match with benefit derived from using it by the company. The overall benefit should at least be higher than the price of the technology acquired.

Simple: It should be easy to be used by the current personnel but not again employing of other workers to use it. The people in the firm should be able to use the technology without difficulties.

Durability: The technology acquired should be able to be used in the firm without breaking down and running obsolescence easily in a short time.

Effectiveness and Efficient: The technology acquired should be able to help in the production of goods or services within the shortest possible time. However these goods or services should be of quality to match the company set goals and objectives.

Easy to maintain: The technology should be easy to maintain with the local spares than requiring importing them from outside which may be costly. The spare parts should at least be available locally.

Environment-friendly: Large scale industrial technology creates pollution and is responsible for global warming, climate change, sea-level rise, glacier melting etc. Appropriate technology encourages the use of renewable resources and discourages the use of coal and oil.

Benefit the community. Appropriate technology advocates argue for the use of high technology involves the use of costly components, which are not available to low-income earners or to low-income communities. This should change so as to benefit the community than leaving them out.

It should utilize local materials available without sourcing them from outside.

It should create jobs with local skills and labour available.

Factors Influencing the Choice of Technology:

Availability of financial resources: Availability of money to buy/purchase a particular technology will determine the type and nature of technology to be acquired by a business. A company that has enough money can be in position to buy the type of technology desired as compared to one without enough finance.

Availability of power: Since power to run the technology acquired is very important, in case it is not available it may be hard to acquire the required technology by the firm but if it is available, it may be easy to acquire the desired type of technology.

Availability of spare parts: A company will be very much interested in acquiring the type whose spares parts can easily be got and the same time that is easy to repair using the available manpower.

Market conditions: If there is a high demand for a particular product but whose production is low due to the use of only manual labour, the company may decide to acquire some technology to enable it produce more goods to match the increasing demand from its customers as compared to one with low demand.

Product to be produced: If the product to be produced by a particular company requires some form of technology, the company may be forced to acquire that technology to enable it in its production process.

Skilled man power requirement: If the company requires a specific technology to use and there are skilled personnel to run or operate that technology, it will be easy for that company to acquire the same technology as compared to one without the skilled personnel to operate the technology.

Government policy: The government may restrict on the type of technology to be used by companies and hence making it hard for some companies to acquire their desired technology. This is common especially where the technology may be a hazard to the people around plus the environment.

Easy absorption: If the technology to be acquired can easily work with the existing technology, it will be easy for the firm to buy than if it requires replacing all the existing as this may be costly on the side of the firm.

Investment cost: The relationship between capacity and investment cost is an important factor to consider. This is because the investment cost per unit of capacity reduces as the plant capacity increases and hence making initial cost one of the factors to consider when choosing the choice of technology.

Technological requirements: The requirement for technology by particular industries producing particular items will determine the technology required. Industries involved in the production of juice will require different technology from those producing iron sheets and cement, books, clothes etc.

Market conditions: If the demand for the product is likely to be high, it is better to choose technology which can cater for high capacity production but when it is likely to be low, the choose technology of smaller capacity but put in mind the provision for expansion.

Feasible normal capacity: It is better to look at technology which can produce a large volume/number of units in a given period during the manufacturing stage than a less volume.

Role of Technological Advancement in Business:

Improving productivity: Advanced technology leads to increase in the production of goods or services and hence making the goods available for customers.

Increasing resource utilization: The resources that would have remained idle and unused by businesses can be exploited with the advanced technology available.

Promoting competition: With the application of advanced technology, businesses can produce quality products for their customers and hence leading to competition in businesses.

Reducing operational costs: With the automation of the production process, costs of production can minimize costs of labour.

Improvement in customer satisfaction: With the use of advanced technology, customers can get their goods on time, make orders of time and all these makes the customers satisfied.

Enhancing labour knowledge and skills development: Technology makes workers get more skills and hence compete for different tasks which can lead to ore production.

Minimizing resource wastage: Advanced technology ensures that the resources which were being wasted by use of labour will reduce drastically.

Increasing profitability of the firm: Because of increased production and improvement in delivery of goods to the customers, more sales are likely to be made and hence more profits for the business.

Structuring Time for Increased Productivity:

There are a few tricks you can use to keep your mind on track and your productivity up.

Make use of hidden time: This is the time that was previously misused or mismanaged. Make this time productive in your activities. This could the time you were sleeping when there was some work to be done, weekends etc.

Manage interruptions: If you work in an office or firm you will find that people are a constant source of interruptions (especially your boss) focus on projects and work achievements try wearing headphones while you get tasks completed, stand up when someone comes in your office to help accelerate the conversation or create a do-not-disturb sign while you try and get things done.

Schedule yourself first: Book an appointment every day that is focused on you. This might include exercise, meditation, quiet time, reading, self-development or all of the above.

Avoid shifting priorities: This happens when you are not sure what is more important and react to crises. For people with shifting priorities, pain is the thing that causes the shift and the focus for them is to stop this pain at all costs. Usually, it makes them feel overwhelmed and stressed.

Effective Time Management Techniques:

Setting Goals: Set yourself specific and clearly defined goals and make sure they are realistic and achievable.

Making priorities: You need to decide what tasks are urgent and important and focus on these. This is called prioritizing. It is important to list the tasks you have and sort these in order of priority, then devote most time to the most important tasks. This avoids the natural tendency to concentrate on the simple, easy tasks and to allow too many interruptions to your work.

Avoiding Procrastination: It is important that you manage your fear of doing things you do not want to do and realize that the fear is often far worse than any possible negative results. Try to take decisions now when possible and when you do not need to get more information pertinent to the decision.

Rewarding/ motivating yourself: After performing a task and succeeding, celebrate, enjoy and reward yourself for the achievement made out of your hard work. This will encourage and motivate you to do more tasks and keep you looking for more tasks to be accomplished.

Spending time planning and organizing: Since failing to plan is planning to fail, take time to plan and organize the tasks that you have to perform. If you need instruments to help in performing the tasks, organize and bring/acquire them in time before starting the tasks.

Breaking down tasks: Break goals down into components so that you can accomplish them one step at a time. Write these steps down and try to be as specific as you can when you do this. Try to complete one task before you go on to the next.

Eliminating urgency: Avoid urgency in your work as this can lead to short term consequences. Learn to work towards reducing urgent things and put your energy on important issues.

Saying no to none-essential tasks: Consider your goals and schedule before agreeing to take on additional work. Set your goals to be accomplished and ensure that you work upon them well as you say NO to none important issues.

Persevering: Not all things will always run smoothly as you progress towards your goals. When things are not working out, try to persevere and learn how to take a positive attitude towards frustration and failure.

Setting deadlines: It is better to set deadlines for all projects worked on. Some clients will need you to finish by a specific date, but others will have more flexibility.

Taking down notes: Have always a small book to record down important issues for future reference and also the next tasks to be accomplished.

Taking a break when needed: Too much stress can derail your attempts at getting organized. When you need a break, take one. Take a walk.

Being action-oriented: Once you have decided to solve specific issues and problems, outline your next course of action and then go to do it.

Being reflective: This is the act of learning from the past, present and future activities to see what are required to be done next. So reflect on the past to see where you failed and how to do it now.

Working in blocks of time: Try as much as possible to do important tasks in a block of three or four hours during the day when you feel you are more effective and still fresh.

Asking question before working: Before starting to work, make sure that you answers for question like what do I have to do: who do I have to do it? Why do I have to do it? When do I have to do it?

Setting start and stop times: When arranging start times, also arrange stop times. This will call for some estimating, but your estimates will improve with practice. This will allow you and others to better schedule activities.

Planning for tomorrow: By the end of the day's activities, plan for the next activities to be done the next day such that you are aware of where to start from tomorrow.

Reception /Counter Book (Register)

MEEME TRADING COMPANY LIMITED P.O BOX 7523, KAMPALA TEL: 0752833909 Vistors' Book					
Date	Visitors' Name	Address	Reason (s)	Signature	Comments

Guidelines for Effective Time Management in an Enterprise

- ✓ Setting periodical goals by the company to be achieved by the workers.
- ✓ Setting of deadlines for achieving the set targets by the company.
- ✓ Having annual work plan/road map to be followed when carrying out the business activities.
- ✓ Recognizing the company employees for achievements/targets made on time.
- ✓ Setting arrival time for all the workers at the work place say 7:30 am daily and leave at 5:00 pm.
- ✓ Having half annual assessment and evaluation of the workers in regard to set targets.
- ✓ Stopping private work be done during the normal working hours by the workers.
- ✓ Stopping workers to use the business property or machinery for private business without getting permission from the authority.
- ✓ Setting work time tables and schedules and strictly adhered to.
- ✓ Warning bells shall be used for the different activities and programmes of the company.
- ✓ Monitoring and supervising the workers during working hours to avoid time wastage.
- ✓ Using the time rate system as a method of payment for the workers.
- ✓ Limiting personal visitors during working but only during the breaks.
- ✓ Improving good reporting relationship should be put in place to ensure harmony at all times in the enterprise.

Time Management Planning:

Time management is a technique for the allocation of the manager's own time by setting goals, assigning priorities, identifying and eliminating time wasters and use of managerial techniques to reach the set goals effectively.

Advantages of Good Time Management:

- ✓ It allows the entrepreneur to relax and do recreational activities
- ✓ It reduces the stress level of the entrepreneur as he completes activities s planned and on time.
- ✓ It leads to more productivity of the goods or services
- ✓ It leads to one focusing on the relevant tasks and hence improves on the entrepreneur performance
- ✓ It enables one to predict the results and control situations
- ✓ It leads to gaining of self-confidence as one is able to plan work properly and take good decisions
- ✓ It leads to healthy life as an entrepreneur adopts to scheduling tasks and space time for doing exercise and health related work

Arrival and Departure Time Book

GOODLIFE RESTAURANT P.O BOX 780, KAMPALA TEL: 0752 905180 ARRIVAL AND DEPARTURE TIME BOOK					
Date	Employee Name	Post	Time In	Time Out	Signature

Indicators of Time Wasting In an Enterprise:

- ✓ Having unnecessary and too long meetings in the organization.
- ✓ Allowing too many interruptions during work.
- ✓ Having no specific set targets and being disorganized.
- ✓ Engaging in gossips at work discussing personal and other non-organization issues.
- ✓ Being late or absent for work and yet there is much activities to done.
- ✓ Lack of administrative hierarchy in the organization.
- ✓ Having too many role conflicts.
- ✓ Having no time warning instruments like bells, wall clocks etc.
- ✓ Being indecisive (inability to settle issues) on the side of the entrepreneur or manager.
- ✓ Having unnecessary long procedures or too much bureaucracy.
- ✓ Engaging in little or no delegation of activities by the superiors.

Consequences of Time Wasting In an Organization:

- ✓ Time wasting leads to delays in production of goods/services in the enterprises.
- ✓ Lowering the sales volume of the organization and hence less revenue and profits.
- ✓ Poor and late service delivery to the business customers.
- ✓ Leading to organizational resource wastage.
- ✓ Leading to customer dissatisfaction as they get services/goods late.
- ✓ Leading to poor and bad employee-employer relationship in the firm.
- ✓ Leading to less/low business productivity.
- ✓ Destruction of teamwork among the employees of the organization.

- ✓ It puts the organization at a competitive disadvantage which may make it to be out competed.

Controls Used To Have Proper Time Management:

- ✓ Being flexible and able to adjust depending on the situation or need.
- ✓ Learning to say no to non-issue or unnecessary matters.
- ✓ Spending time to plan and organize the issues to be done at a particular period.
- ✓ Doing the right thing at the right time.
- ✓ Eliminating the issue of urgency in doing things.
- ✓ Developing / having a list of things to be done
- ✓ Setting goals to be achieved by the organization.
- ✓ Setting the start and end time for every activity.
- ✓ Rewarding self for the activity well done which can encourage more thinking.
- ✓ Considering of the biological time.
- ✓ Avoiding being a perfectionist.
- ✓ Practicing the art of intelligent neglect.

Paper Three:

Case Study-Time Management

It is 4:00 am in the morning and Anyango wakes up. She tunes on the radio to listen to her favorite programme up to 6:30 am. There after prepares to set off to **Lumino High School** and by 8:30 am, she is at the school gate late by 30 minutes.

While at school, she dodges some lessons to go for betting where she realizes some money on good days but in most cases she losses. She mainly uses school fees and she is always chased from school due to failure to pay fees in time although it is always given to her by the parents at the term start.

On daily basis, Anyango comes home at 2:00 pm, listens to other favorite programmes up to 4:00 pm. She does house chores until 5:00 pm and thereafter helps in the preparation of dinner, eats and washes the dishes. She washes her uniform and hangs them to dry inside the house. She then listens to a sex talk show on the radio for those looking for lovers which take two hours. She starts her homework at 8:30 pm to 10:30 pm and retires to bed. By the morning hours, the uniforms are not yet dry so she “dries” them with a flat iron as she irons them.

Lumino High school has 600 students and each paid admission fee of Shs. 30,000/-, each pays school fees of Shs.200,000/- per term, uniform Shs. 60,000/- per year, food Shs. 70,000/- per term, laboratory fee Shs. 15,000/- per year, medical fee Shs. 30,000/- per term. The school incurs salaries to 16 teachers each Shs. 260,000/- per month, for the three months per term, and Shs.1,400,000/- for the support staff, per term, URA taxes Shs. 1,480,000/- per year, directors’ allowances Shs. 900,000 per term, other sundry expenses Shs. 4,640,000/-. Only 16 students on average default school fees per term and the school has always arrears to suppliers of beans Shs. 1,350,000/- per term.

- Tasks:**
- (i) What are the weaknesses of Anyango?
 - (ii) Advise her on how to overcome those challenges
 - (iii) What lessons can you learn from the case study?
 - (iv) Prepare the income statement for Lumino High School for one year.

(Please this work above)

PACKAGING:

Packaging is the wrapping of the products in special containers to protect them from contamination and bad weather that can affect their quality.

Methods of Packaging Products:

Bottling or Canning: This is the putting of goods in the bottles or cans. It is common with liquid foods like drinks, drugs etc.

Bagging or putting in bags: Here products are put or packed in bags. This is common with clothes etc.

Putting in plastic containers: Here, products are packed in plastic containers and it is common with drinks, powder, perfumes etc.

Baling or Tying in bales: This is commonly used in paper trims and waste paper, beverage containers, plastic wraps, fiber such as cotton wool, tobacco etc.

Tinning or putting in Tins: Here products are packed in tins after production. Examples of products tinned are drinks, powders, tablets etc.

Putting in boxes: This is packaging products in the boxes. This is common for products like flowers, spare parts for cars and bicycles, mineral water and other tangibles, books etc.

Why Package The Products:

- ✓ **To protect the products:** Good packaged materials are usually strong enough to protect the contents from rough handling and external conditions.
- ✓ **To preserve the products:** Packaging is a means of preserving the contents. Goods especially food products and chemicals are protected against atmospheric germs and contamination.
- ✓ **To be transported easily (portability).** Well packaged goods are easy to handle and transport to customers especially liquids, cereals etc.
- ✓ **To help in promotion:** Goods packaged well and attractively create a good product image. This facilitates the selling of the products because the customers can easily identify them.
- ✓ **To provide for self-service:** This is only possible when the products are well packaged in containers, boxes etc.
- ✓ **To enable easy distribution:** Well packaged goods can easily be delivered to customers like by mail order service etc.
- ✓ **To enable ease handling and selling them:** Well packaged goods can be handled well and sold by automatic machines as compared to those that are not packaged.
- ✓ **To display instruction labels:** Prices are always displayed on packaged goods which helps the customer for easy guidance and questioning about the product prices.
- ✓ **To provide relevant information:** Packaging the product helps in providing information like the ingredients used in producing it, sugar contents to those who do not like sugar, expiry date for the product, name of the producer and location, address etc.
- ✓ **To differentiate the product:** Packaging helps in distinguishing the product from those of the competitors such that yours can easily be identified by the customers.
- ✓ **To help in portioning:** Packaged products can be in different sizes according to weights, volume or length. This therefore makes it easy to handle them and also people to buy depending on their financial capacity.

Factors Considered When Choosing Packaging Materials:

Cost of product and materials: It is better to cost the cost of the packaging materials such that the costs are not too high to affect the final price for the product by making it expensive to the customers.

Consumer expectations and requirements: Another important factor in packaging decision is what the consumer requires and expects from a packaging. As we marketers love to say “Consumer is the king” so the consumer expectations are important in deciding the packaging materials.

Retail space: As the retail space is becoming costly and scarce with every passing day, the manufacturers are coming up with innovative and space efficient packages everywhere, so as to ensure cost control without compromising on adequate exposure to the customer.

Transportation: This decides the type, size, material and shape of the package to be used package. Goods to be transported by road would have a different package as compared to those to be transported by Air. The package has to ensure that product is not damaged during transit and at the same time should not escalate the cost of transportation too much to make it impractical.

Government regulations: Governments have clearly defined policies and legal requirements on packaging of various products and it is required by manufacturers to adhere to that. Packages that are not easily bio-degradable could draw customer and possibly governmental concern.

Social norms: Social norms and the usage behavior of people also play an important role in deciding on the packaging to be used for various products. People in different countries use same products in a different ways and as a result the packaging in which it is offered differs from country to country.

Product nature restrictions: Manufacturers have to use proper packaging to ensure that product is stored optimally for usage when required without being damaged. Products could sometimes react chemically with the packaging material if not properly chosen and be rendered useless. For e.g. Acid could only be packaged in glass bottles and containers because only glass could store acid without being melted.

Raw material availability: In order to ensure that the cost of packaging is kept under check and also to ensure ready availability of packaging, it is important that the raw material is available locally. If the raw material for making the packaging is imported from another country, it could greatly increase cost of product.

Value addition: Many types of packing could be used for one particular product but manufacturers will tend to choose the packaging that adds most value to their products.

Supply chain requirements: Every manufacturer takes its products to the final customer through a supply chain involving retailers, wholesalers and other middlemen. A manufacturer would have to be careful to choose a packing that meets the supply chain requirements i.e. is easy to store, transport, pack, display etc.

Product usage: Various aspects are involved in this particular factor like how the product will be used, when it will be used, for what purpose. Based on these factors, a product might be available in various packaging types to make the product suitable for particular usage. For restaurant usage tomato ketchup is packed in big plastic containers.

Level of consumer education: If a product is new or has a new usage or requires a particular level of expertise, then it is necessary to educate the consumers about how to use the product, so as to make sure its smooth usage.

Product handling: The way a product has to be handled can go a long way in deciding the packaging type to be used. Delicate products like glassware or electronics that need careful handling are packed in corrugated boxes whilst supported by thermal coal sheets to ensure its safety against breakage.

Mode of sale: If a product is sold via wholesaler-retailer-consumer, the products are packaged in a big package so that it is easier for wholesaler to store and transport bigger packages and it is easy for retailer to buy a big package and then sell individual units as per customer convenience.

Target consumer: Consider various demographics and social aspects of their target audience in order to be able to decide on a packaging. A packaging for elderly people will have to make the

product easy to access and use, whereas products for kids have to be packed in tamper-proof, attractive packages.

Level of competitors: The packaging of the product used by competitors also goes a long way in helping a manufacturer determine the packaging of the product.

PRODUCT LIFE CYCLE (PLC):

This is the course of the product sales and profits over its lifetime. It involves five distinctive stages:

Product development Stage: This begins when the company finds (conceives) and develops a new product idea. During this stage the company investment costs accumulates or are high.

Introduction Stage: It is a period of slow sales growth as the product is introduced into the market. At this stage, profits are non-existent due to heavy expenses of product introduction like sales promotion activities.

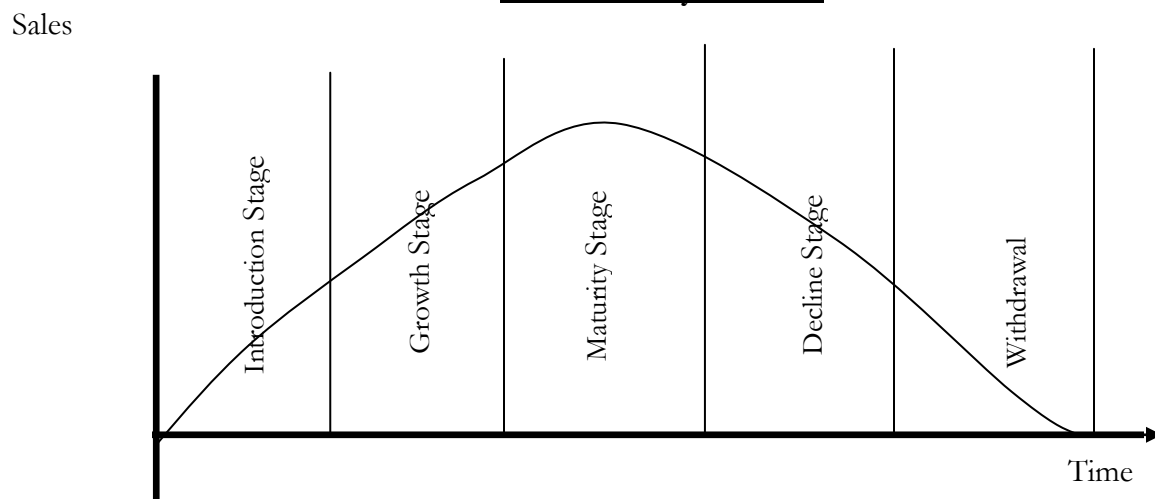
Growth Stage: This is a period of rapid market acceptance and increasing profits on the side of the business.

Maturity Stage: It is a period of slowdown in sales growth because the product has achieved acceptance by most potential customers, profits decline because of increased expenditure to defend the product against competition from new entrants (free entry) in the market due to much profits.

Decline Stage: It is a period when sales of the product fall off and profits chop. Due to high competition, the product will be forced to close off from the market. It should be noted that not all products follow all the product life cycle. Some products are produced and die quickly while others stay in the maturity stage for a long and long time and the later pick up. Not all products will experience withdraw from the market. E.g. refer to Airtel when MTN came, it had challenges but was not withdrawn.

Withdrawal: Here there is down turn in the market and the product is removed from the market. More innovations are made, intensive price cutting, there is change in customers' tastes and many companies remove their products from the market.

Product life cycle curve:



Paper Three:**Case Study:**

Sarah operates a restaurant in Nakasero Market amidst other restaurants. She is very hard working and opens the restaurant very early to serve morning tea and closes very late after serving supper to her customers. The restaurant is famous for its delicious, quality, traditional and a variety of other dishes.

She employs other workers to serve customers promptly as she collects payments. She buys all types of daily newspapers in addition to a television set installed in the restaurant to make her customers not bored. Every customer who buys food is always given a free glass of either water or juice.

After serving customers, she bids them farewell and requests them to come back again next time as well as telling others to also come and she does this with a cutting smile on her face. The restaurant is open all the year round which has made her customers build trust and confidence in it.

The employees are well motivated to avoid the costs of labour turn over. The competitors are now jealous about her restaurant and they think she uses charms to attract customers. She has so far received two certificates of quality assurance from UNBS and she now wants to change the restaurant into a Hotel though she still fears that this would push the price beyond the reach of her customers. She had not taken up any insurance policy concerning the business or anything.

She employs a cashier who maintains well the books of accounts and make sure that the business pays all the taxes to the authority. At the close of last year her sales were Shs.340,000,000, cost of purchases were Shs. 200,000,000, taxes and other expenses totaled to Shs. 85,000,000 and carriage on purchases were Shs. 10,000,000 while discount received on purchases were Shs. 8,000,000. She had stock at start of the year worth Shs 25,000,000 and closing stock worth Shs. 15,000,000. She had returned some goods to the suppliers worth Shs. 3,000,000. She paid commission to her workers Shs. 200,000 and also received rent refund worth Shs. 300,000 and she had taken food items worth Shs. 1,000,000 for private use from the business.

Questions:

- a) What promotional strategies do Sarah uses to attract more customers?
- b) Identify the personal entrepreneurship skills Sarah uses to make business successful
- c) Identify the insurances policies the business can take.
- d) What costs of labour turnover is Sarah trying to avoid by motivating the employees?
- e) Prepare an income statement for Sarah restaurant for the year ended 31st/12/2017
- f) Computer the following: (i) Margin (ii) Stock turnover rate