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MOTTO: **Knowledge For career Consciousness**

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ECO329 - PROJECT EVALUATION

Q. What is the meaning of „"project""?

Definition of Project

Longman Dictionary of Contemporary English defines a project as "an important and carefully planned piece of work that is intended to build or produce something new or to deal with a problem".

A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end.

The end is reached when the project"s objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists. Also, a project is a temporary endeavor undertaken to create a unique product, service, or result.

A project may also be terminated if the client (customer, sponsor, or champion) wishes to terminate the project. Projects can also have social, economic, and environmental impacts that far outlive the projects themselves.

Q. List and explain two (2) types of projects

The Types of projects

1. Competitive Projects

The projects are selected as a result of an open or closed project contest announced and conducted by particular Implementing Authorities (2nd level Intermediate Bodies) which is responsible for implementation of a given measure. Selection of these projects is performed with respect for the principle of disclosure and access to information according to the criteria of project selection adopted by the Programme Monitoring Committee (the document is available in the section Programming Documentation).

The process of project selection consists of the following stages:

1. Call for proposal

2. Submission of projects

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3. Formal evaluation and content-related evaluation of applications

4. Publication of the contest results

5. Review procedures (if needed)

6. Signing contracts on financing projects

7. Registration of documents in the information system, according to separate provisions in areas concerned (the first registration after the formal evaluation of the application for support).

2. Individual Projects

Individual projects are investments of strategic significance for the Programme implementation, indicated by the Managing Authority, after the recommendation of the competent Intermediate Body, according to strategic criteria approved by the Programme Monitoring Committee. Individual projects are undertakings whose implementation is important and justified concerning the implementation of the strategy of a given sector or area and which contribute to a large extent to achieving objectives of a priority axis a given projects is implemented under. Placing the project on the list is only a conditional declaration of its financing and is connected with guarantying funds for its implementation within the project budget. These projects will not be subject to content procedure and will not apply for the funds under the content procedure. The project implementation will depend on fulfilling the selection criteria approved by the Programme Monitoring Committee, requirements concerning documentation and implementation readiness as well as acceptance of the application for support with annexes required by the MA.

Q. Explain briefly the Characteristics of a Project.

Characteristics of a Project

1. A single definable purpose, end-item or result: This is usually specified in terms of cost, schedule and performance requirements.

2. Every project is unique: It requires the doing of something different, something that was not done previously. Even in what are often called "routine" projects such as home construction, the variables such as terrain, access, zoning laws, labour market, public services and local utilities make each project different. A project is a one-time, once-off activity, never to be repeated exactly the same way again.

3. Projects are temporary activities: A project is an ad hoc organization of staff, material, equipment and facilities that is put together to accomplish a goal. This goal is within a specific time-frame. Once the goal is achieved, the organization created for it is disbanded or sometimes it is reconstituted to begin work on a new goal (project).

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4. Projects cut across organizational lines: Projects always cut across the regular organizational lines and structures within a firm. They do this because the project needs to draw from the skills and the talents of multiple professions and departments within the firm and sometimes even from other organizations. The complexity of advanced technology often leads to additional project difficulties, as they create task interdependencies that may introduce new and unique problems.

5. Projects involve unfamiliarity: Because a project differs from what was previously done, it also involves unfamiliarity. And oft time a project also encompasses new technology and, for the organization/firm undertaking the project, these bring into play significant elements of uncertainty and risk.

6. The organization usually has something at stake when undertaking a project: The unique project "activity" may call for special scrutiny or effort because failure would jeopardize the organization/firm or its goals.

A project is the process of working to achieve a goal: During the process, projects pass through several distinct phases, which form and are called the project life cycle. The tasks, people, organizations, and other resources will change as the project moves from one phase to the next. The organizational structure and the resource expenditures build with each succeeding phase; peak; and then decline as the project nears completion.

Q. Explain any five categories of project classifications.

1. National and International Projects: This kind of projects is categorized on the basis of geographical location set as countries. If one country tries to build projects with other foreign country, such projects are said to be international projects and when it is done in one‟s own country, then it is said to be a domestic or national project.

2. Industrial and Non-industrial Projects: The projects initiate in one‟s own country with an objective to make money and for commercialization, are called industrial projects. For example, a car manufacturing is an industrial project. While the project which are done for the upliftment of the society and majorly done with social welfare objectives, are called nonindustrial projects

3. Projects based on Technology: These are largely high technology projects which require lots of investment and works on new or non-existent technologies like rocket launch project, space projects, etc. and some other are those projects which usetechnology which are already proven like a software ERP project, automobile automation project, etc.

4. Projects based on its size: These projects are based on investment size or capacity of plant to offer goods or services. This can be further classified down to small, medium and large scale projects. Project above the investment of 100 million dollars is considered as large projects.

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5. Need based projects: Projects are basically driven by certain needs of the organization and these needs furthers forms the basis of project categorization as Balancing Project, Modernization Project, Expansion Project, Diversification Project, Rehabilitation Project and Plant Relocation Project.

Q. Discuss differences between project and programme.

1. Structure: A project is well-defined, with a Project Charter that spells out exactly what the scope and objectives are for the project. A program tends to have greater levels of uncertainty. The team is also bigger. The program team are supervising and coordinating the work on a number of projects so while the core team may not have that many people in, the wider team includes the project managers and all the project team members.

2. Effort: This is the most significant difference between projects and programs. A project represents a single effort. It is a group of people forming a team working towards a common goal. A program is different; it is a collection of projects. Together all the projects form a cohesive package of work. The different projects are complimentary and help the program achieve its overall objectives. There are likely to be overlaps and dependencies between the projects, so a program manager will assess these and work with the project managers concerned to check that overall, the whole program progresses smoothly.

3. Duration: Some projects do go on for several years but most of the projects you willl work on will be shorter than that. On the other hand, programs are definitely longer. As they set out to deliver more stuff, they take longer. Programs tend to be split into tranches or phases. Some projects are also split like this, but not all projects last long enough to be delivered in multiple phases.

4. Benefits: A project team works towards achieving certain outputs, that is, what you get at the end. For example, this could be a set of deliverables that form a software package, or a new retail branch, or whatever it is that you are working on. The benefits of a project tend to be tangible: you get a „thing" at the end of it. A program team works towards delivering outcomes. Outcomes can be tangible but are often not.

5. A project is a singular effort of defined duration, whereas a program is comprised of a collection of projects.

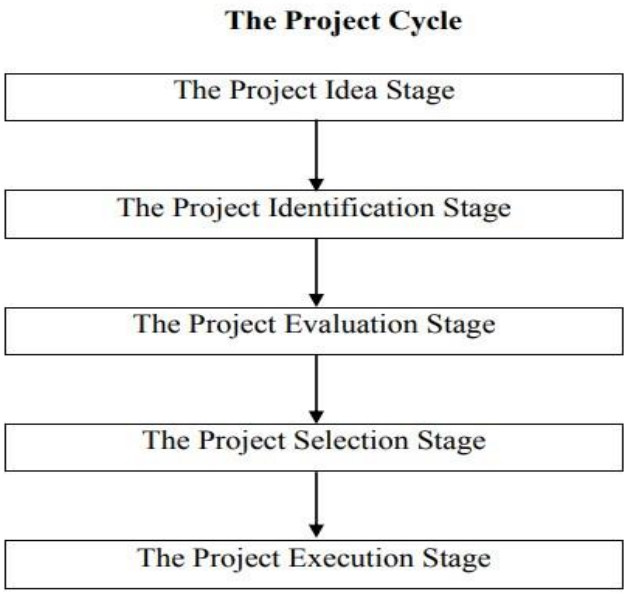
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Q. Explain a project cycle

The Meaning of Project Cycle

A project cycle tries to describe the various stages that are involved, from the conception of a project idea to when the project is executed or actually takes off. Understanding a project cycle is very important as it enables us to get the total picture of a project. The Project Life Cycle refers to

a series of activities which are necessary to fulfill project goals or objectives. Projects vary in size and complexity, but, no matter how large or small, all projects can be mapped to the following life cycle structure: Starting the project. Organizing and preparing.
Most of the projects are likely to be private sector driven.



Q. List and discuss the various stages involved in a project cycle.

1. The Project Idea Stage
The project idea stage is the first stage of a project cycle. The idea about a project arises from a variety of sources within the internal environment or market place. New project ideas could originate from within an organisation or from outside the organisation. If the idea originates from within, it could be from a sales person who has encountered some success or problem with customers while performing his or her functions. You will also realise that a new project idea could emanate from outside an organisation. Coming from outside an organisation, it could be requests from existing customers asking for bigger or better products. New project ideas may fall into any of the following categories.

- Proposal to add new products to existing lines: A company with existing product lines may decide to add new products to its existing lines.

- Proposal to expand capacity in existing lines: A company may have a proposal to expand capacity to enable it take advantage of enlarged market opportunities.

2. The Project Identification Stage
After the project idea stage, the next stage is the project identification stage. The project identification stage consolidates the idea stage. Project ideas are not really useful unless they are clearly identified and put down in a systematic manner for further processing. The idea to introduce a new product into the market may come from a company salesman who is very familiar

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with the market. At the boardroom room level, the entire organisation has to see the project idea properly and clearly identify it as a possible area ofbusiness investment. The totality of the new idea would be considered.

3. The Project Evaluation Stage

When a project has been identified, the next step is to evaluate the project. Project evaluation involves the estimation of the benefits and costs of a project. Benefits and costs should be measured in terms of cash flows. We have to emphasise at this point that the estimation of the cash flow of a project is a very difficult task. It is difficult in the sense that the cash flow to be estimated is future cash flow.

4. The Project Selection Stage

After the project evaluation stage, the next stage is the project selection stage. Faced with an array of projects with different values and worth, there is need to select which projects to embarked upon. There is no standard procedure for selecting projects as this will differ from benefit seen. The important thing to note is that the project selection function is a top management responsibility which in most cases goes to Board of Directors of an organisation. In selecting projects, management usually considers the financial outlays involved and matches them with the financial capabilities of the firm.

5. The Project Execution Stage

The project execution stage is the final stage in the project cycle. After a project has been selected, it moves on to the execution stage. In most organisations, the responsibility for execution of projects is vested on a project management team raised by top management. The function of the team is to ensure that the budget for the project is spent entirely on the project and that the project is completed on schedule. In an ideal organisation, the project management team usually prepares a monthly budget consideration report on projects for top management consideration. This is important for project monitoring and control

Q. Explain the major format of project evaluation.

Project Evaluation – An Introductory Format

Evaluation is important to assess the worth or merit of a project and to identify areas for improvement. It promotes appropriate decisions to take, including changes to the project‟s objectives and methodology. An evaluation must be planned carefully. There is no one suite of techniques that fits all types of projects. The evaluation approach, design and methodologies should match the specific project. The focus and purpose of an evaluation differs depending on the needs of stakeholders that may include project developers, funding agencies, local government, community, teaching personnel and students. It is important to consult with stakeholders to select the most suitable approach. By identifying the highlights and lowlights of a project, evaluation leads to conclusions that may affect future decision making. Findings of evaluation reports, based on thorough analysis, are valuable input in planning processes. Evaluation supports learning and

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improvement through incorporation of recommendations into new projects, programs and strategies.

Q. Discuss the key segments of project evaluation

1. The Technical and Engineering Segment

The technical and engineering segment of project evaluation tries to evaluate the total technical and engineering soundness of a project. It also tries to relate the project to the environment in which it is located.

2. The Demand and Market Segment

This segment focuses attention on the demand for goods and services and relates it to the market. An evaluation of the demand for goods and services is very important because demand translates to revenues. Also, we need to evaluate supply situations in the market. These two topics will be treated in detail later.

3. The Financial Segment

The financial segment of project evaluation focuses attention on the financial aspects of projects. In discussing financial issues, we are considering all financial aspects of a project such as startup costs, financial plans, renames and costs and income statements.

4. The Economic Segment

The last segment we will consider is the economic segment. The economic segment considers projects from the macroeconomic point of view. Economic analysis tries to measure the benefits and costs of projects in terms of their value to society as a whole.

5. The Management Segment

After evaluating the technical and engineering segments of projects, the next segment we need to discuss is the management segment. The management segment focuses attention on the management aspects of a project. Projects only become successful if they are well managed. We do not need to over-stress the importance of management. Again, we need to evaluate the legal form of the organization that is evaluated and see if it can carry the project in question.

Q. List and explain five items that you hope to find in the checklist of the management segment of a project evaluation.

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Table 2: A Checklist for the Management Segment

Item	Have you covered this in your evaluation?
The legal form of the business Organisational structure Who will manage the project Qualifications of key staff Number of employees Salaries	

Q. List and discuss the factors that have influenced the location of industrial projects in your present environment.

1. Closeness to Markets: This is the case with fresh produce - so that for example, many supermarkets operate their own bakeries.

2. Communications Links: Transport is an important factor supporting access to markets. Modern companies also need to locate where they have access to excellent information technology links

3. Closeness to raw materials: Locating close to the raw material supplies can reduce where raw materials are heavy and large quantities are used up in production costs. This is particularly true for industries like steel, which uses large quantities of iron ore in the production process.

4 Availability of appropriately skilled employees: Some industries rely heavily on a highly skilled workforce. In contrast, other industries that require cheap labour will seek locations where there are a lot of people looking for work that are prepared to accept low wages.

5. Opportunity for waste disposal: Waste is an important side effect of modern industrial processes. Firms that produce a lot of toxic material (e.g. some chemical plants) will seek to locate where there are facilities available for recycling and safe disposal of their products.

6. Availability of power supplies: Energy supplies can typically be found in most parts of the UK - e.g. electricity pylons and cables. Large firms are able to negotiate bulk discounts when they purchase power from energy retailing companies. Being able to negotiate a good deal in a particular location might be influential as a locational factor.

7. Availability of land: Is increasingly important today. Land is becoming increasingly scarce particularly in urban locations, forcing rental prices up. Property prices are particularly high in major city areas such as Central London and Birmingham. Companies like Land Securities are developing new sites that are suitable for modern businesses to locate to.

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8. Government incentives: Are important in reducing costs of locating in certain areas. These incentives are in effect subsidies provided by European Regional Funds (from the European Union) and by the UK government.

9. Availability of Good Road Networks: Availability of good road networks is another major factor influencing the location of projects in the economic landscape. Road networks are very important. They are important for the movement of essential raw materials from raw material sources to factories and also for the movement of finished goods to the markets where they are needed. Most investors in the economy are usually attracted to areas with good road networks. Good road net works reduce the cost of transportation.

10. Availability of a Good Rail System: Another important factor influencing the location of projects is the availability of a good rail system. A good railway system ensures cheap transportation and evacuation of raw materials from their sources to factory locations and also the movement of finished goods to markets. You may observe that the development of trading locations in Nigeria seemed to have followed the railway system. The North – East and West rail system runs through towns today which have become trading posts. Kaduna Abuja, Lagos-Osun, etc., all enjoy good trading activities because they are located along railway line routes.

Q. Discuss any three (3) importance of Location in business

The Importance of location in Business

Choosing a location for a new business is one of the most important decisions entrepreneurs make during the planning phase of launching ventures. The location of a business can affect many aspects of how it operates, such as total sales and how costly it is to run. Even homebased businesses and online businesses can be affected by location-dependent rules and regulations.

1. Accessibility

Location is of utmost importance to businesses that sell goods or services directly to customers at brick-and-mortar establishments. For example, a card shop located in a popular mall is likely to attract more customers than a similar shop located in a run-down part of town. Location can also influence a business's ability to market itself. A business with a storefront on a busy street is more likely to attract customers with signs and storefront displays than a business that is not in a busy area.

2. Competition

A business's location can affect the competition it faces from businesses that sell similar products and services. For instance, an upscale neighborhood in a major city might have dozens of ethnic food restaurants, while a small town might not have any businesses that sell ethnic food. Starting a business in an area with few direct competitors can increase the likelihood of attracting customers.

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3. Operating Expenses

The location of a business can influences the total cost of operation. Renting a storefront on a popular street or in a highly trafficked mall is likely to be more expensive than opening a store in a small commercial district in a residential area. A business could be better off opening its doors in an area that is cheap, even if it results in fewer total sales.

4. Taxes and Regulations

The location of a business determines the state and local taxes that owners have to pay and the regulations they must follow. Income tax and sales tax rates vary from one area to another, which can have a significant impact on a business owner's earnings. Government zoning laws can limit the size and construction specifications of buildings and the use of signs. State and local laws can also affect the types of permits and licenses necessary to operate a business.

5. Home Businesses

Home-based businesses offer a variety of advantages over companies located away from the home, which can make them attractive to small-scale business owners. The cost of operating a home-based business is typically lower than paying to rent retail space or office space in other locations. Home offices can cut down on travel costs and make it easier for owners to balance work with home life. The cost of operating a home office is also tax deductible.

The Advantages of Buying a Business

I. The difficult start-up work has already been done. The business should have plans and procedures in place.
II. Buying an established business means immediate cash flow.
III. The business will have a financial history, which gives you an idea of what to expect and can make it easier to secure loans and attract investors.
IV. You will acquire existing customers, contacts, goodwill, suppliers, staff, plant, equipment and stock.
V. A market for your product or service is already established.
VI. Existing employees and managers will have experience they can share.

The Disadvantages of Buying a Business

I. The business might need major improvements to old plant and equipment.
II. You often need to invest a large amount up front, and will also have to budget for professional fees for solicitors and accountants.
III. The business may be poorly located or badly managed, with low staff morale.
IV. External factors, such as increasing competition or a declining industry, can affect future growth.
V. Under-performing businesses can require a lot of investment to make them profitable.

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VI. The seller's personality and their established relationships may be a major factor for the success of the business.

Deciding to Buy a Business

Once you've decided you're ready to be in business, you then need to find a business that suits your abilities, finances and goals. Consider:

I. A preferred industry (one that matches your experience and meets your goals)
II. A preferred business model (retail, wholesale, national distributor, on-line supplier, etc.)
III. A favourable geographic location (ideal customer exposure, potential for growth, distance to travel to and from work, etc.)
IV. Opening hours (e.g. Most retailers trade 7 days, restaurants often trade nights, some businesses are on call 24/7)
V. How much money you have available to fund the purchase and working capital of the business.

Where to Find Businesses for Sale

There are many ways to find businesses for sale. Businesses are often advertised through: newspapers

I. Business broker websites - business brokers act as intermediaries between sellers and buyers
II. Real estate agency listings
III. Trade journals and industry magazines
IV. The franchising and business opportunities expo
V. Commercial websites

Checking Your Finances

Buying a business is a significant investment, so you need to sort out your finances early and be well prepared and professional when applying for a bank loan or approaching potential investors. This will give them confidence to back your business and convince the seller you are serious.

When checking your finances, consider:

I. The purchase price of the business
II. Stamp duty, usually payable by the purchaser
III. The working capital requirements for your business (your cash flow projections will show that figure)
IV. Professional fees and charges related to the purchase
V. Any loan repayments and servicing costs, if applicable

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All commercial lenders use the following criteria to assess loan applications:

I. Your ability to service loans (interest and periodic repayments)

II. Security (most banks require a 1st mortgage on real estate security and may lend up to 65% of the real estate asset being offered as security)

III. The management and business skills of the borrower

IV. The trading history of the business (at least three years prior to purchase)

V. The profit and loss and cash flow forecasts for three years (forecasts need to be supported by realistic assumptions about future trading)

Starting Your Research

Early research of potential businesses could include:

I. Scouting the location
II. Researching your competition (what do they offer that is different)
III. Checking the business's website and marketing materials
IV. Trying the business's products or services
V. Checking demographics
VI. Finding out why the business is for sale
VII. Talking to the business's suppliers
VIII. Talking to the business's customers
IX. Researching customer reviews about the business online

Conducting Due Diligence

When buying an established business, it is vital that you, the prospective business owner, examine the business in detail. This process is known as due diligence. Due diligence is generally conducted after the buyer and seller have agreed in principle to a deal, but before a binding contract is signed. Conducting due diligence is the best way for you to assess the value of a business and the risks associated with buying it. Due diligence gives you access to important and confidential information about a business, often within a time period specified in a letter of intent.

With this information you can assess the business's financial position and identify risks and ongoing potential. It is your chance to answer any questions you might have about the business. The due diligence process ensures that you get good value for a business. Done correctly, it can be the difference between buying a business that makes you money and buying a business that costs you money. You should always perform due diligence with the help of your lawyer, accountant or business adviser.

To conduct due diligence you'll need to carefully review:

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I. Income statements
II. Records of accounts receivable and payable
III. Balance sheets and tax returns including business activity statements (last 3-5 years)
IV. Profit and loss records (last 2-3 years)
V. Cash deposit and payment records, as reconciled with the accounts
VI. Utility accounts

The Warning Signs for the Buyer

You should be wary of sellers who:

I. Do not disclose important information
II. Won't agree to a trial period or enough time to conduct due diligence (you will need at least 30 days)
III. Won't introduce you to their suppliers, landlord or estate agent
IV. Are involved in legal proceedings
V. Are keen to close the deal quickly
VI. Have a questionable credit record and history

The Types of Purchase Contracts

There are basically 2 types of contracts:

I. Purchase contract for the assets of a business (i.e. You purchase only specific assets that the business currently owns)
II. Purchase contract for shares in the business (i.e. You purchase all the shares in the business and, so, take over all its assets and liabilities).

Q. Explain capacity and production planning

Capacity and Production Planning

Capacity planning is the process of determining the production capacity needed by an organization to meet changing demands for its products. In the context of capacity planning, design capacity is the maximum amount of work that an organization is capable of completing in a given period. Effective capacity is the maximum amount of work that an organization is capable of completing in a given period due to constraints such as quality problems, delays, material handling, etc.

The phrase is also used in business computing and information technology as a synonym for capacity management. IT capacity planning involves estimating the storage, computer hardware, software and connection infrastructure resources required over some future period of time. A common concern of enterprises is whether the required resources are in place to handle an increase in users or number of interactions. Capacity management is concerned about adding

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central processing units (CPUs), memory and storage to a physical or virtual server. This has been the traditional and vertical way of scaling up web applications, however IT capacity planning has been developed with the goal of forecasting the requirements for this vertical scaling approach.

Capacity is calculated as (number of machines or workers) × (number of shifts) × (utilization) × (efficiency).

Capacity planning is focused on maximizing the capacity of a company in a way that allows it to be more efficient and, thus, more profitable. Basic capacity planning attempts to match the volume the company is able to produce to the demand in order to avoid downtime by preventing bottlenecks.

The Strategies of Capacity Planning

The broad classes of capacity planning are lead strategy, lag strategy, match strategy, and adjustment strategy.

1. Lead Strategy

Lead strategy is adding capacity in anticipation of an increase in demand. Lead strategy is an aggressive strategy with the goal of luring customers away from the company's competitors by improving the service level and reducing lead time. It is also a strategy aimed at reducing stock out costs. A large capacity does not necessarily imply high inventory levels, but it can imply higher cycle stock costs. Excess capacity can also be rented to other companies.

2. Lag Strategy

Lag strategy refers to adding capacity only after the organization is running at full capacity or beyond due to increase in demand (North Carolina State University, 2006). This is a more conservative strategy and opposite of a lead capacity strategy. It decreases the risk of waste, but it may result in the loss of possible customers either by stock out or low service levels. Three clear advantages of this strategy are a reduced risk of overbuilding, greater productivity due to higher utilization levels, and the ability to put off large investments as long as possible. Organization that follow this strategy often provide mature, cost-sensitive products or services.

3. Match Strategy

Match strategy is adding capacity in small amounts in response to changing demand in the market. This is a more moderate strategy.

4. Adjustment Strategy

Adjustment strategy is adding or reducing capacity in small or large amounts due to consumer's demand, or, due to major changes to product or system architecture.

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Q. Planning in an organization is a way forward to achieve organizational objectives, that is why it is said that he who fails to plan, will plan to fail. Briefly discuss the relationship between Capacity Planning and Production Planning.

Similarities between Capacity Planning & Aggregate Planning

Most business owners and managers strive to produce the highest quality products at the lowest production costs. In business terms, "capacity" means the maximum amount of productivity possible. Capacity planning is one means of managing resources to garner the most profit for every dollar spent. This type of planning can be set up at different levels. The planning system helps a company handle an increase or decrease in demand, meet changes in technology and take advantage of new opportunities.

1. Capacity Management and Planning

Capacity management involves setting up a system to fulfill all manufacturing orders on time. The system includes plans and schedules for production, taking into consideration materials needed and shipping requirements. Capacity planning is done for long-term, medium-term and short-term periods.

2. Aggregate Planning

Aggregate planning is medium-term capacity planning that typically covers a period of two to 18 months. Like capacity planning, aggregate planning considers the resources needed for production such as equipment, production space, time and labor. Companies use aggregate planning to ensure they have ample time to carry out production plans to meet customer demand, smooth operations along the supply chain and reduce production costs.

Aggregate planning, also called aggregate scheduling, is an approach to operations management focused on satisfying demand. This may be in relation to production, the workforce itself or inventory management. Aggregate planning ties facility planning in with scheduling decisions and does so in a way that is quantitative, meaning it produces numbers to back up an operations plan. Aggregate plans help match supply and demand while minimizing costs by applying upper level forecasts to lower-level, production floor scheduling. Plans generally either chase demand, adjusting the workforce accordingly, or are level plans, meaning that labor is relatively constant with fluctuations in demand being met by inventories and back orders.

Production Planning & Scheduling

Production planning, or production scheduling, is a term that covers all aspects of operations, from workforce activities to product delivery. Production planning is almost exclusively seen in manufacturing environments; however, many of the techniques employed in production planning can be and are used by many service-oriented businesses. Production planning is primarily concerned with the efficient use of resources. While it is sometimes referred to as operations planning, and it employs many of the same techniques, the primary distinguishing

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characteristic is that production planning is focused on the actual production, whereas operations planning looks at the operation as a whole.

The goal of production planning is simply to maintain flow. The individual in charge of production planning adjusts the workforce and process flow to obtain a regular use of company resources with minimal downtime, minimal bottlenecks and a level of output consistent with all the resources being put into the process.

1. Static Versus Dynamic Planning

There are two main types of production planning: static and dynamic. Static planning carries an assumption that all steps in a process can be defined and will not change. In contrast, dynamic planning assumes that steps in the process will change, so nothing is planned until the demand is received. Dynamic planning works very well in environments where there is a high degree of customization. An example of a static plan is a retail clothing company, in which production levels are determined up to a year in advance. An example of a dynamic plan is a floral shop; there may be a few arrangements for display and possible purchase, but the primary focus is on creation of custom arrangements after an order is received.

2. Forward Incremental Planning

Forward incremental planning, or FIP, is a dynamic planning method. FIP is implemented from the initial receipt of an order. The actions required to fulfill that order are prioritized. The essential goal of FIP is to reduce lag time. While it can be quite effective, its primary limitation is that it assumes no other action is in progress -- as in, no machines are tied up and the workforce was essentially idle until the order was received. This may be a huge limitation for some industries, but for companies that produce products with high levels of customization, FIP is a powerful tool.

3. Backward Incremental Planning

Backward incremental planning, or BIP, is the other side of the FIP coin. BIP looks at the requirements from the due date backward and organizes the process accordingly. A good example of this is a bakery. The cake must be fresh for its pickup date, so the baker would look at the steps required to produce the cake and the estimated time required to bake and decorate it. BIP works well in cases where a deadline is more of a requested completion date and completing the order sooner produces no benefit.

The Importance of Planning & Scheduling

I. Identification

Planning and scheduling are closely related; they're both processes that apply to almost every element of starting and running a business. For example, when you create a business plan and write down each section of how the business will run, you are participating in the planning

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process. You must also write a complete schedule to go along with that plan so that you know what to work on each day as you work toward the opening day of the business. For work projects, you must establish a project plan and well-defined goals, then set a corresponding schedule for accomplishing those goals.

II. Significance

There are a couple of important reasons why planning and scheduling are important for your business. For one, a solid plan and schedule helps keep costs down and allows you to operate according to a budget. For instance, if you take the time to create a plan for an online advertising campaign, you'll be able to narrow down your target audience and avoid the unnecessary cost of advertising to people who aren't interested in your products. Creating a schedule for running your online ads may also allow you to take advantage of price promotions offered by the advertising service. You can also set strict ad budget restrictions based on your plan. Having a plan and schedule also helps make your business goals seem more realistic and achievable

III. Types

In addition to general planning and scheduling activities, many businesses must also prepare specific schedules and plans. For instance, a manufacturer must create an operations plan and schedule for the production process. Companies that have to order supplies and raw materials on a regular basis need an ordering schedule. If the company utilizes shift workers, there must also be a schedule detailing the availabilities of employees and needs of the business.

IV. Solutions

Creating a project plan and schedule is a two-step process that requires one or more computer programs. When planning, it's helpful to simply create a table with columns denoting every aspect of the project, including a description of the project that needs to be completed, a timeline for the project's completion including a due date, the name of the project leader, and the project's budget. You can create such a table in a word processing or spreadsheet program. After the initial plan is complete, enter a summary of specific tasks along with deadlines into a calendar program to receive reminders of upcoming deadlines. Such reminders are useful in remaining ontime with projects.

V. Expert Insight

One issue that may arise in the process of planning and scheduling is a situation where the business owner has to address multiple objectives at the same time. As Michael L. Pinedo, author of "Planning and Scheduling in Manufacturing and Services" states, "This implies that the two problems often cannot be solved separately; they may have to be solved together." For example, if one of your business objectives is to increase sales figures, an additional goal tied to that objective might be to train your sales professionals. These competing needs may complicate the process and cause delays in the project plan until both issues are addressed.

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Q. Explain manpower planning and evaluation

Manpower Planning and Evaluation

In general terms organising manpower in an organisation is the process of assigning duties amongst personnel and coordinating efforts towards the attainment of the firm‟s objectives. But before organising, there must be a plan. It is the plan that leads to the shaping of an organisation‟s structure.

Conceptually, the project initiative in structuring the organisation should be concerned about two critical things.

1. Job definitions in the project under consideration

2. Departmentalisation which follows job definitions.

In doing this, similar jobs are grouped together to form a department. The most common way of organising a project is by function. For example a manufacturing plant may be divided into three types namely:

1. Production
2. Marketing
3. Finance

There are two uses of the manpower plan.

The first use is by the project initiator. When the project initiator is structuring the project, the manpower plan definitely is a critical component. The project initiator needs to know well in advance who the key employees will be. The key employees will depend on the nature of the business in question. If the business is, for example, soap manufacturing, then a lot of the production staff should be industrial or pure scientists plus other core support staff. Apart from that, each employee should have their various responsibilities. For example, in a soap plant, you will have production staff and also quality control staff. They have difference responsibility. And of course, the qualifications of the various staff including their years of experience should be properly documented and evaluated.

The second use of the manpower plan is that financial institutions like banks, before granting loans or overdraft for a project, usually insist on being convinced of the management skills that will be available or are actually available in the firm that seeks to borrow money. They will look at the people concerned, their qualifications and match them with the jobs allocated to them. Hours of work and the salary and wages of the entire work force are another critical input. The salary and wages of those working on a project is actually expected to hover around the average for the industry.

Q. Explain the meaning of market analysis

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Definition of Market Analysis

A market analysis is a quantitative and qualitative assessment of a market. It looks into the size of the market both in volume and in value, the various customer segments and buying patterns, the competition, and the economic environment in terms of barriers to entry and regulation.

A marketing analysis is a study of the dynamism of the market. It is the attractiveness of a special market in a specific industry. Marketing analysis is basically a business plan that presents information regarding the market in which you are operating in. It deals with various factors.

A market analysis studies the attractiveness and the dynamics of a special market within a special industry. It is part of the industry analysis and thus in turn of the global environmental analysis. Through all of these analyses, the strengths, weaknesses, opportunities and threats (SWOT) of a company can be identified. Finally, with the help of a SWOT analysis, adequate business strategies of a company will be defined. The market analysis is also known as a documented investigation of a market that is used to inform a firm's planning activities, particularly around decisions of inventory, purchase, work force expansion/contraction, facility expansion, purchases of capital equipment, promotional activities, and many other aspects of a company

Q. What are the factors of market analysis?

The Factors of Market Analysis

The most common factors are the SWOT which is an acronym for; Strengths, Weaknesses, Opportunities, and Threats. By assessing the company‟s strengths and weaknesses, you can make a strategy on which factors to focus upon. If you have a good labor force, ample investment and good advertising experts then you are going to make your marketing strategy focusing on those things. Similarly if your technology is comparatively poorer and you lack online presence then you are going to avoid those things. You also look at external factors like situations which may you with an opportunity or threat. Economic factors, political instabilities or even social changes can give you opportunities which you can seize and do better. They can also create threats which are going to hamper your business dealings. Considering all these factors will give you a marketing analysis from which you can implement your decisions.

Dimensions of Marketing Analysis

There are certain dimensions which help us to perform a marketing analysis. These things help us understand the market we operate in better. These dimensions include;

1. Market Size: The size of the market is a key factor in a marketing analysis. The bigger the market the more competitors you are likely to have. For a big market, you need to make sure your products and services stand out. Otherwise, the customers can easily switch to a rival product. Not only that, a bigger market makes you rethink your pricing policy. Set your price too high then you are going to lose your customer base to other competitors. Set it too low and people will think that you are just providing cheaper poor quality goods. If the market size is

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small then you can get away with charging a high price. All these facts are kept in the marketing analysis. Based on that you go ahead with your marketing plan.

2. Growth rate of the market: The market growth rate is a huge factor in any sort of marketing analysis. This is because you get the idea of how long the said market will last.
Before you make an investment you need to analyze the market‟s growth rate. If it is likely to grow over time then you can invest more in it. If it has no growth then you are likely to be discouraged from investing anything at all. How much time and importance you give to the market depends on its growth rate.

3. Market Trends: Market trends are a significant part of the marketing analysis. Having knowledge about the trends help you to decide what kind of product you are going to sell. When you are starting off a business you need to know what the current trend is. What is the thing that the customers like? How much they are willing to spend? What other trends may capture their attention? These are the sort of things which will go on your analysis. On the other hand, market trends can change any day. This can turn out to be an opportunity for your business. If that‟s the case then you can seize it and make the most of it. Changes in trend can also be a threat for you.

4. Market Profitability: Most companies‟ motive to get into the business is to make a profit. In other words, they are profit-motive businesses. So before getting into a business you need to analyze the profitability of the market. If the market has a good profitability then only you are going to invest heavily. Otherwise, it would be a waste of your time and capital. In order to calculate the profitability of the market, there are a few things one has to consider. These things include; buyer power, supplier power, barriers to entry and so on.

5. Key Success Factors: The key success factors are those elements which help the business to achieve great success in the market. Such elements are required to stand out among the rest of the competition. These are things which you did well that have enabled you to produce great results. Key success factors include;

1. Technology progress

2. Economies of scale

3. Efficient utilization of resources

6. Distribution Channels: Distribution channels are very important for a business. Without those, you won‟t be able to get your products to your customers. So it becomes a big factor in a marketing analysis. This is because you need to assess how well the channels are. If the existing ones are good enough or you need to develop newer ones. Sometimes you come up with brand new channels like online marketing.

7. Industry Cost Structure: The industry cost structure is a significant factor while running a business. It basically sees how much cost is required to get your products for sale. Sometimes

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firms can come up with ways to decrease that cost and thereby make a bigger profit without increasing the market price. Doing a marketing analysis will help you to come up with newer ways to reduce cost. At the same time, it helps to create strategies for developing a competitive advantage of your rivals.

Different Methods of Market Analysis

Surveys are among the most common market analysis tools. Companies can send out mailers and e-mails or use telephone surveys to gather consumer data. The information from the survey typically provides information on the desires, perceptions, and wants of consumers.

New products, product quality, or product lines are often the result of this information. These surveys may also reveal information on other products purchased.

i. Focus Groups

Focus groups are a bit more personal when compared to standard surveys. Companies often select a few individuals to come in and discuss or test a new product. The information here allows a company to review consumer feedback and ask the focus group participants questions. Though focus groups are a bit more expensive than surveys, these methods of market analysis can glean more information. A drawback to focus groups can be the internal bias in any individual in the group.

ii. Observation

Observation may be among the easiest methods of market analysis. Essentially, internal stakeholders simply look around the market and business environment at what other companies are doing. A review of competitors and other successful products can help a company determine the future of the market. A flaw in this method is the inability to apply quantitative analysis to the analysis process. Observation may also not determine the internal profits a competitor earns from its products

iii. Field trials

Field trials typically represent one of the most expensive methods of market analysis available to the company. The business can create a small group of products and test them in select markets around the larger region. Information from each test market allows a company to assess how general consumers react along with any associated marketing or other programs attached to the product. If successful, the market analysis can help a company complete a rollout in a nationwide sense. As the company already has a partial system in place for distributing goods, a complete rollout is typically easier to process after a field trial.

Different Types of Business Analysis Tools

Business analysis tools are different methods stakeholders use to assess a company‟s operations. In most cases, the purpose of the analysis is to determine how effective or efficient a company

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is in the overall market. A few different tools are accounting ratios, SWOT analysis, and the balanced scorecard.

1. Accounting Ratios

Accounting ratios are among the easier analysis tools to compute and use in business assessment. These ratios use information from both the income statement and balance sheet in order to provide indicators of a company‟s financial strength. In particular, the ratios measure a company‟s liquidity, profitability, asset use, and financial leverage along with other financial areas. While a good tool for use at the end of each month, financial ratios do have some flaws. First, the ratios are useless by themselves as they need another source for comparison; second, the ratios only use information from the financial statement for review.

2. SWOT

SWOT stands for strengths, weaknesses, opportunities, and threats. In terms of business analysis tools, SWOT analysis is valuable because it reviews both internal and external factors that can relate to a company‟s operations. Strengths and weaknesses are the internal factors; essentially, they are the things a business does well and does not do well. Opportunities and threats represent the external factors. Opportunities are new items or business areas in which a company can engage, while threats represent the potential competitors in the market or new opportunities.

3. The Balanced Scorecard

The balanced scorecard is an increasingly popular assessment among other business analysis tools. The scorecard has four different perspectives: financial, business process, learning and growth, and customer. Each perspective looks at specific information related to its overarching focus. Taken together, all perspectives should provide information that helps a company reach its goals and develop strategies. The balanced scorecard may also be able to help a company plan future operations.

Q. List and Explain types of Market Failure.

Types of Market Failure

A market failure is a situation where free markets fail to allocate resources efficiently. Economists identify the following cases of market failure:

1. **Productive and allocative inefficiency**: Markets may fail to produce and allocate scarce resources in the most efficient way.

2. **Monopoly power**: Markets may fail to control the abuses of monopoly power.

3. **Missing markets**: Markets may fail to form, resulting in a failure to meet a need or want, such as the need for public goods, such as defence, street lighting, and highways.

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4. **Incomplete markets**: Markets may fail to produce enough merit goods, such as education and healthcare.

5. **De-merit goods**: Markets may also fail to control the manufacture and sale of goods like cigarettes and alcohol, which have less merit than consumers perceive.

6. **Negative externalities**: Consumers and producers may fail to take into account the effects of their actions on third parties, such as car drivers, who may fail to take into account the traffic congestion they create for others. Third-parties are individuals, organisations, or communities indirectly benefiting or suffering as a result of the actions of consumers and producers attempting to pursue their own self interest.

7. **Property rights**: Markets work most effectively when consumers and producers are granted the right to own property, but in many cases property rights cannot easily be allocated to certain resources. Failure to assign property rights may limit the ability of markets to form.

8. **Information failure**: Markets may not provide enough information because, during a market transaction, it may not be in the interests of one party to provide full information to the other party.

9. **Unstable markets**: Sometimes markets become highly unstable, and a stable equilibrium may not be established, such as with certain agricultural markets, foreign exchange, and credit markets. Such volatility may require intervention.

10. **Inequality**: Markets may also fail to limit the size of the gap between income earners, the so-called income gap. Market transactions reward consumers and producers with incomes and profits, but these rewards may be concentrated in the hands of a few.

Q. Discuss extensively the types of stock market analysis.

The Types of Stock Market Analysis

1. Fundamental Analysis

The goal of fundamental analysis is to determine whether a company‟s future value is accurately reflected in its current stock price. Fundamental analysis attempts to estimate the value of a particular stock based on a variety of factors, such as the current finances of the company and the prevailing economic environment. Fundamental analysis also may include speaking with a company‟s management team and assessing how the company‟s products are received in the marketplace.

When a fundamental review is complete, the analyst may decide the stock is an attractive opportunity because the market has underestimated its future prospects. The analyst also may determine the stock to be a “hold” or a “sell” if the value is fully reflected in the price.

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2. Technical Analysis

Technical analysts evaluate recent trading movements and trends to attempt to determine what‟s next for a company‟s stock price. Generally, technical analysts pay less attention to the fundamentals underlying the stock price. Technical analysts rely on stock charts to make their assessment of a company‟s stock price. For example, technicians may look for a support level and resistance level when assessing a stock‟s next move. A support level is a price level at which the stock might find support and below which it may not fall. In contrast, a resistance level is a price at which the stock might find pressure and above which it may not rise.

3. Sentimental Analysis

Sentimental analysis attempts to measure the market in terms of the attitudes of investors. Sentimental analysis starts from the assumption that the majority of investors are wrong. In other words, that the stock market has the potential to disappoint when "masses of investors" believe prices are headed in a particular direction. Sentiment analysts are often referred to as contrarians who look to invest against the majority view of the market. For example, if the majority of professional market watchers expect a stock price to trend higher, sentiment analysts may look for prices to disappoint the majority and trend lower.

Q. What is supply analysis?

Supply analysis in project analysis tries to focus attention on the supply side of the market. The potential investor will like to know who the current suppliers of the goods or services are. Because this will guide him/her in understanding what is known as the demand/supply gap. Supply analysis tries to identify the supply of given goods or services. It tries to identify who the suppliers are and their locations. Generally, in measuring the supply of a good, the following should be taken into consideration:

I. The domestic supply of the good or service
II. The foreign supply of the good or service. (the imported quantity)
III. The export of the good or service (export quantity).

Q. Explain the supply equation and its relevance.

The Supply Equation

Consider a firm called Bade Nigeria Limited that wishes to set up a liquid soap manufacturing plant in Nigeria. The firm now wants to analyse the supply of liquid soap in Nigeria. As we have said, there are three key items to consider. Those three items are:

• The domestic supply of the liquid soap

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• The foreign supply of the liquid soap

• The export of the liquid soap in question.

Let A = the domestic supply of a good

B = the foreign supply of a good

C = the export of the good

Then supply X = (A + B) – C.

This is called the supply equation.

You will notice that C is the exported quantity and which will not be available for local consumption.

Q. Explain the meaning of competition

The Nature of Competition

Competition occurs because every firm in an industry wants to sell its products and also get market share to the detriment of other players. In the market, the state of competition depends on five basic forces as shown in Figure 5 Therefore, any discussion on competition must take into consideration these five basic forces since they cannot be glossed over. The first force exists within the industry where we see firms all jockeying for position. Here, all firms unleash their strategies and fight each other. In the end, some firms emerge as clear leaders, some emerge as followers, while others might close shop. The second force is the threat of new entrants. New entrants into an industry bring in new capacity. But we should note that the threat of entry depends on the barriers present and also the reaction of existing players. We should also not forget the forces arising from suppliers. Strong suppliers can exert strong bargaining power on market participants to the extent of raising prices and influencing the price of goods generally. Powerful buyer groups, when they exist in an industry, tend to influence prices since they more or less dictate the price at which they will buy. Finally substitute goods or the threat of substitute goods also influence competition in an industry. Substitute goods tend to limit the potentials of an industry. For example sugar tends to limit the honey industry‟s potentials for growth and expansion.

Q. Discuss marketing plans and how they are designed.

The Marketing Plan

The marketing plan addresses issues concerning the marketing of the products. It tries to relate the firm to its external consumers and the market.

The marketing plan should answer the following questions:

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• What is the product or service?

• What are the uses of the product or service?

• What is the offered price?

• Where will the product be found?

• How will the product or service be advertised?

Table 21: The Marketing Pan Checklist

	Have you covered this in the plan?
How big is the market? Who are your competitors? How are they faring? What is the structure of the competition? What are your competitors' prices? What are your prices? What are the trends in the market? What market share are you thinking of?	

Table 22: The Marketing Plan Checklist

	Have you covered this in the plan?
What are your competitors' strengths? What are your competitors' weaknesses? What is your strength? What is your weakness? What is your competitive advantage? How will you distribute your goods? How will you promote your goods? What is your customer service policy?	

Q. Explain what project cost analysis is

Project Cost Analysis

Project cost analysis provides total frameworks for calculating or estimating the total cost of a project. For example, a firm wants to set up a garri processing plant to enable it serve the food needs of a growing population.

To guide our discussions, let us define project cost as all those costs that are incurred in the process of setting up a project. The costs must be attached to the project. And the list of the items must be exhaustive. But we need to arrange the cost items in an orderly and consistent manner so that like items stay together. To ease our discussions and to make them as easy as possible, we shall divide project cost items into the following sub-headings:

• Cost of land

• Cost of building

• Cost of machinery and equipment

• Cost of utilities

• Cost of furniture and other fittings

• Cost of vehicles

• Pre-operational expenses

• Working capital

Q. Explain the meaning of projected income statement

The Projected Income Statement

The projected income statement is usually needed by a variety of people. Some of the users of the projected income statement might have direct interest in the firm while others have indirect interest. The owners or sponsors of a project have a direct interest in the projected income statement. It is so because they are entrusting their investment to the firm. They wish to know beforehand what the revenues, expenses and net profit of the firm will be, and most importantly, their own expected dividends

Q. Explain the meaning of a projected balance sheet

Meaning of a Balance Sheet

The balance sheet or the statement of financial position is one of the most important financial statements. It shows the financial condition or better still, the statement of affairs of a firm or business. We Will therefore, define a projected balance sheet as a forecast of a future balance sheet as at a future date.

Components of the Balance Sheet

The balance sheet has two main sides namely:

I. Assets

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II. Liabilities

1. Assets

When we are talking of assets generally, we are talking about the valuable possessions owned by the firm, valued in monetary terms. They will include land and buildings, stock of goods, raw materials, cash, vehicles and other valuables. But generally we can classify assets under the following headings:

• Current assets

• Investments

• Fixed assets

Lets us now discuss each of them:

Current Assets

The current assets of a firm or business are those assets which are held in the form of cash or expected to be converted into cash in a period or within the accounting period of the firm. In actual practice, the accounting period is usually of one-year duration.

The current assets of the firm will include the following:

• Cash

• Book debts (debtors)

• Prepaid expenses

• Marketable securities

• Stock

Investments

Investments represent the firm‟s investments in shares, debentures and bonds of either firms or the government. By their nature, the investments are long term. It is important to note that the investments yield income to the firm.

Fixed Assets

Fixed assets are long-term assets held for periods longer than one year. They are usually held for use in the firm‟s business. Fixed assets include land, buildings, machinery and equipment, vehicles, etc.

2. Liabilities

When we talk of liabilities, we mean the debts that are payable by the firm or business to creditors. They may represent various obligations due to various third parties arising from

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various business transactions. Examples of liabilities include creditors, accounts payable, taxes payable, bonds, debentures, etc. But generally, liabilities are divided into two broad groups namely:

• Current liabilities and

• Long-term liabilities

We shall discuss each of the groups

Current Liabilities

Current Liabilities are those debts that are payable in a short period usually within a year. One of the major current liabilities is the bank overdraft. Most banks grant their customers overdraft which are repayable within a period of one year. The other type of current liability includes provisions for taxes and dividends. These are liabilities that will mature within one year.

Another type of liability is expenses payable. The firm may expenses to public power supply organisation or have rents to be paid.

Long Term Liabilities

Long-term liabilities are the obligations which are payable in a period of time greater than a year. One of the long term liabilities of a firm is term loan. The firm may borrow money from a bank that will be repayable over a period preceding one year. Such a borrowing or loan is regarded as long-term liability. Also, when a firm needs to raise a large sum of money, it debentures. A debenture is an obligation on the part of a firm to pay interest and principal under the terms of the debenture.

Q. Explain the preparation of the projected balance sheet

Construction of the Projected Balance Sheet

In the earlier sections of this unit, we have discussed the balance sheet generally. That was from a historical perspective. We shall now discuss the construction of a projected balance sheet.

The following steps are recommended:

• Start from the determination of sales revenue.

• Compute cost of goods sold (COGS)

• Compute admin expenses, general and selling expenses.

• Bring forward sundry income and expenses and generate the projected income statement.

• Determine taxation, dividends and retained earnings.

• Project for assets.

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• Project for liabilities.

Q. Discuss project evaluation criteria

Project Evaluation Criteria

Project evaluation criteria seek to present the methods to be adopted to measure the value of an investment project. The evaluation enables us to choose between two or more projects once the values are known.

Any project evaluation criterion to be adopted should posses the following characteristics:

• It should provide a means to distinguish between acceptable and unacceptable projects.

• It should also be able to rank projects in order of their desirability.

• It should be a criterion that is applicable to any conceivable project.

• It should recognise that bigger cash flows are preferable to smaller ones.

• It should recognise that early cash flows or benefits are preferable to later cash flows or benefits.

Although there are a lot of project evaluation criteria in the literature, we shall discuss the most widely accepted criteria which are the traditional criteria and the discounted cash flow (DCF) criteria

1. Traditional Criteria of Project Evaluation
In the traditional criteria, we shall discuss two methods, namely: the payback period and the accounting rate of return method.

The Payback Period
The payback period is one of the most popular methods of project evaluation. The payback period is defined as the number of years required to recover the original cash outlay invested in a project. If the project yields constant annual cash inflows, the payback period can be computed by dividing cash outlay by the annual cash inflow.

So we say thus: Payback period Cash outlay (investment) = Annual Cash inflow

The Accounting Rate of Return (ARR) Method
The accounting rate of return (ARR) is a method that uses accounting information to measure the profitability of an investment. The accounting rate of return (ARR) is computed by dividing average income after taxes by the average investment.

$$ARR = \frac{\text{Average Income}}{}$$

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Average Investment

2. The Discounted Cash Flow (DCF) Method

The two methods are the net present value (NPV) method and the internal rate of return (IRR) method. These two methods are referred to as discounted cash flow (DCF) methods or the adjusted methods.

The Net Present Value (NPV) Method

This method correctly recognises the fact that cash flows arising different time periods differ in value and are comparable only when their equivalent- present values are found out

The following steps are followed when computing the net present value (NPV).

1. A discount rate is selected to discount the cash flows. The correct discount rate should be the firm‟s cost of capital which is the minimum rate of return expected by the investors to be earned by the firm.

2. The present value of cash inflows and outflows are computed using cost of capital as the discounting rate.

3. The net present value (NPV) is the present value of cash inflows less present value of cash outflows.

The Internal Rate of Return (IRR) Method

The internal rate of return (IRR) can be defined as that rate which equates the present value of cash inflows with the present value of cash outflows of an investment. Put in another way, the internal rate of return is the rate at which the NPV of an investment is zero. It is called the internal rate because it depends solely on the outlay and the resulting cash inflows of the project and not any rate determined outside the investment.

Q. Explain the meaning of an economic analysis

Economic analysis also tries to solve resource allocation problems in an economy. In economic theory, resources are very scarce and it is part of any good analysis to allocate resources between competing projects. For example, resource allocation problems can arise if a community is trying to decide whether to build a school or a hospital with limited scare resources. Economic analysis considers projects from a macro point of view. The type of questions asked in an economic analysis are:

1. Will the project under consideration lead to the general well being of the community, the state and the nation?

2. Will the project generate employment at various levels in the macro environment?

3. Will the project lead to economic growth?

4. What are the linkages that the project has, i.e., forward or backward linkages?

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5. Will the project generate more technical knowledge?

Q. Compare and contrast financial analysis and economic analysis.

Financial Analysis and Economic Analysis – a Comparison

In general theory, a financial analysis tries to solve resource allocation problems. It tries to use information from projects to determine whether projects should come on stream or not. Economic analysis also tries to solve resource allocation problems in an economy. In economic theory, resources are very scarce and it is part of any good analysis to allocate resources between competing projects. For example, resource allocation problems can arise if a community is trying to decide whether to build a school or a hospital with limited scare resources. Financial analysis equally tries to allocate resources but from a micro view point. So, both financial and economic analyses solve resource allocation problems. Financial analysis tries to concern itself with issues of both benefits and costs arising from a project. In the financial analysis, the concern of the analysis is to evaluate the stream of costs attached to a project and deduct same from the stream of benefits.

If the stream of benefits is greater than the stream of costs, then project in question has a positive value and should be accepted, all things being equal. However, if the stream of costs is greater than the stream of benefits, then the project in question has a negative value and should not be accepted, all things being equal. Economic analysis also concerns itself with costs and benefits arising from a project. If the stream of benefits is greater than the stream of costs, then the project in question has a positive value and should be accepted.

However, if the stream of costs is greater than the stream of benefits, then the project in question has a negative value and should not be accepted, all things being equal. So we could say that financial analysis and economic analysis both concern themselves with costs and benefits arising from a project. In the end, they provide answers to the question of whether a project should be acceptable or not. In evaluating projects, both use discounting and compounding techniques to arrive at their answers.

However, there exist conceptual differences between financial analysis and economic analysis. While financial analysis has a primary objective of establishing the viability and acceptability of a project from a financial view point, paying no attention to society, economic analysis has the objective of establishing the fact that a project is acceptable or not to the society as a whole. So while financial analysis has a micro objective, economic analysis has a macro objective.

Finally, in reaching a decision as to whether or not to accept a project, financial analysis and economic analysis both try to establish a relationship between costs and benefits. For example in financial analysis, costs and benefits arising from a project are usually defined in monetary variables such as profits. But economic analysis goes really beyond the vague definitions of

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profit. In Economic analysis, costs are defined in terms of opportunity costs or foregone costs to the society as a whole.

The Nature of Economic Analysis

In economic analysis, the costs and benefits attached to a project are usually compared before a decision can be reached on whether or not to accept a project. In the literature, there exist three discounted measures of project worth which we will now discuss:

The Net Present Worth

The net present worth is the difference between the present worth of benefits and the present worth of costs. We can write thus:

Net Present Worth = [Present Worth of benefits] [Present Worth of costs]

Generally, according to the net present worth theory, a project is acceptable if the net present worth is positive. If the net present worth is negative, the project will be rejected.

Benefit-Cost Ratio

If you divide the present worth of benefits of a project by the present worth of its costs, then you have what is known as the benefit-cost ratio. We can write thus:

$$\text{Benefit-Cost ratio} = \frac{\text{Present worth of benefits}}{\text{Present worth of costs}}$$

Generally, a project is acceptable if the benefit-cost ratio is greater than 1 (one). If the benefit-cost ratio is exactly 1 (one), that project is a break even project

The Internal Rate of Return (IRR)

The internal rate of return is a discount rate where the present worth of benefits is equal to the present worth of costs. Under the internal rate of return evaluation method, a project will be acceptable if its internal rate of return is higher than the firm‟s required rate of return. The starting point of economic analysis is the financial analysis of a project which should be properly concluded before embarking on an economic analysis. Some adjustments will be made to the calculations to arrive at economic data.

First, it may be necessary to include or exclude some costs and benefits which may have been included or excluded from the financial analysis.

Secondly, some project inputs and outputs may have to be revalued if their shadow prices differ significantly from their market prices.

Adjustments to Financial Analyses

We have stated that the starting point of an economic analysis is a financial analysis, so if we have financial data on financial analysis, we need to make some adjustments to the financial analysis to arrive at economic analysis data. We shall now consider some of the adjustments:

Transfer Payments

Transfer payments represent transfer of resources from one section of society to another. They do not make any claim on the country‟s resources and as such, their impact should be clearly distinguished and analysed in the economic analysis. One of the first transfer payments we shall consider is interest. Interest is a reward for capital. For example, if a project is funded through a bank loan, the interest component is included in the profit and loss statement.

The interest charges in the profit and loss statement represent transfer payments from a project to the provider of funds. What the project lost (interest) has become a gain to the provider of funds. In effect, both figures are equal and cancel out without any net increase to society of funds. Therefore in economic analysis, interest charges are excluded since they only represent transfer payments.

The second transfer payment we shall consider is tax. When a project is profitable it is expected to pay taxes to the government at the ruling rate. In computing the profit of a project taxes are deducted to arrive at net profit. Taxes therefore appear as outgoing cash flows. Taxes represent transfer payments from a project to government.

In the economic analysis of a project, taxes are excluded because from the point of view of the society, they are only a transfer of resources from one section of the economy to another. The third transfer payment is subsidies. In a traditional private sectors setting, it would be unheard of to talk of subsidies. But in economic analysis, subsidies appear as important data. Most public sector projects enjoy government subsidies to enable the poor gain access to certain services which ordinarily they cannot afford without government assistance. Subsidies represent opportunity costs to a nation as a whole.

Linkage Effects of a Project

Generally, there are two types of linkage effects which we shall briefly discuss:

I. Forward Linkage Effects

Forward linkage is the stimulus given to industries that use the products of a project. A case in point is a flour manufacturing project. Flour has so many uses. If a flour mill is located in an environment, it will lead to the establishment of such projects as bakeries which will use the flour.

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II. Backward Linkage Effects

Backward linkage demonstrates the stimulus to industries that supply the inputs to a project. For example, the establishment of a flour mill in an environment will lead to demand for wheat which is a major input for flour mill. The flour mill will lead to investment in wheat cultivation. Also, the establishment of a car assembly plant will lead to the establishment of tyre manufacturing plants that need to supply tyres to the car assembly plant.

Q. Explain the meaning of Evaluation

The Meaning of Evaluation

Broadly speaking, evaluation may be defined as "a process which attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in the light of the objectives". It is, thus, a critical analysis of the factual achievements/results of a project, programme or policy vis-a-vis the intended objectives, underlying assumptions, strategy and resource commitment.

In specific terms, it makes an attempt to assess objectively the following:

(a) the relevance and validity of the objectives and design of the project/programme in terms of broader issues of development policy, sector/sub-sector priorities and strategies as well as other problems of a wider nature

(b) the efficiency and adequacy of the pace of progress of the project/programme where the focus is mainly on managerial performance and productivity

(c) the effectiveness of the project/programme - a major part of an evaluation exercise-in realizing the intended objectives from a variety of angles; and (d) the identification of reasons for the satisfactory or unsatisfactory accomplishment of the results of the project/programme and to deduce critical issues and lessons which may be of relevance to other on-going and future projects/programmes of a similar nature.

Q. Analyse the purpose of evaluation and classify difference types of project evaluation.

Types of Evaluation

Evaluation can be applied for different purposes as well as to a specific activity, project or programme. It is not restricted to the completion stage only but involves periodic investigations at many stages. The different types of project evaluations carried out are: (i) ex-ante evaluation, (ii) on-going evaluation and (iii) terminal evaluation/ex-post evaluation.

(a) On-going/Mid-term Evaluation

The main purpose of an on-going/mid-project evaluation is to assist the project management to make appropriate adjustments in the changed circumstances or to rectify any shortcomings in the original design, so as to improve its efficiency and overall performance.

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(b) Post-Completion Evaluation

The purpose of an ex-post or post-hoc evaluation is to discover the actual, as opposed to the projected, results of implementing a project. The aim of evaluation is primarily to compare the actual outcome of the project with the projections made at the appraisal stage. The examination of different aspects of the project can provide important lessons derived from experience for the new projects. The overall impact of the project will result in a number of effects which can be classified as costs and benefits, direct and indirect or tangible and intangible.

(c) Terminal Evaluation/Ex-Post Evaluation

Ex-post evaluation takes place after the completion of the project and is often more in-depth as it focuses on the analysis of impact. Besides, it is time-consuming, costly and calls for persons with special skills.

Q. Explain the potential risk to mankind

Meaning of Risk

Risk has been described as a natural ingredient to any activity. No venture, no success; this could be recorded as no risk, no success either for an individual or organization.

The question now is what do we mean by risks?

To answer this question, there is need for us to note that different authors have defined risk in various ways. Williams Jr. and Heins (1985) had posited that, no one definition is "correct". That is, the definition could be likened to the story of the seven blind men‟s description of the elephant – all of which are correct and at the same time incorrect. The above might not be unconnected to the fact that risks exist whenever the future is unknown. More so, that the adverse effects of risk had challenged the survival of mankind on planet earth ever since time immemorial.

RISK is the variation in the outcomes that could occur over a specified period in a given situation. If only one outcome is possible, the variation and hence the risk is O. If many outcomes are possible, the risk is not O. The greater the variation, the greater the risk. - Williams, Jr and Heins (1985, P6).

Risk, defined as uncertainty as to loss poses a problem to individuals in nearly every walk of life. Students, householders, business people, employees, travelers‟ investors, and farmers all must face risk and develop ways to handle it. If a cost or loss is certain to occur, it may be planned for in advance and treated as a definite, known expense. It is when there is uncertainty about the occurrence of a loss that risk becomes important problem.

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The Types of Risk

1. Speculative Risk

These are risks where the outcomes could either be a loss, no loss or profit. For instance, if a company decides to invest its money in a project, the objective of using fund in the way is to make profit. But in reality, the outcome could either be a loss, a break-even or a profit. Risks with such tendencies are classified as speculative risks. Examples of speculative risks are:

I. Decision as to invest in a new project, the timing of such an investment
II. Whether to enter a new market place or a new country (as in the developed countries" emerging market concept of Asia, etc.)
III. A car maker deciding to replace a current model, the timing and level of investment needed, etc.

2. Operational Risk

These are risks that any organization faces in carrying out its daily activities. This occurs when something unplanned and unpleasant hit the organization causing losses – either to men or materials – in the organization. In an operational risk, the outcome is either a loss or no loss situation. Some textbooks refer to this type of risk as Pure Risks. As a result of the unexpected nature of this kind of risks, organizations can prepare for losses following the occurrence of such risks, through insurance, contingency planning and other funding mechanisms. There is always the challenge to organization to recognize and manage the operational risks threatening their existence.

Q. Differentiate between speculative risk and operational risk

Speculative risk are risks where the outcomes could either be a loss, no loss or profit while operational risk are risks that any organization faces in carrying out its daily activities.

Q. Describe the role and position of the risk manager within an organization

Relationship between Risk and the Objectives of an Organization

The objective of an organization is to maximize its profit. This main objective has always been made difficult as a result of the impact of risk to the organization. For instance, if an organization suffers from an industrial accident which, let say, makes it pay out the sum of N50 Million in form of various compensation to the victims of such losses. You will note that this will affect the overall result of the organization at the end of its financial year. Apart from the objective of profit maximization, a modern organization has alongside other objectives. The objective of an organization may be informal while at times, they are formal and documented in form of strategic plan

Q. Identify and explain organization"s stakeholders

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The identified „"stakeholders" by Kaye (2001) are:

1. Employees

- Morale and pride. This often reflects the degree of the employees" interest in the success of an organization and has a direct link into the quality of work performed.
- A need for a job to sustain personal and family life and also self-esteem. A safe working environment

2. Suppliers

- Suppliers to the organization will depend on its survival to be able to deliver and receive payment for the goods or services contracted.
- Sometimes the loss of one or more large customers can destroy a supplier of goods and services.
- The organization, as supplier, can destroy customers who are further up the delivery chain.

3. Customers and Other Recipients of Service

- Most business customers are free to move to other organizations. They will do so if they lose confidence in either delivery or quality.
- Other, non-commercial, service suppliers may find that their relationships with their existing recipients will become difficult and even fail should confidence be lost.
- Sales teams will find it increasingly difficult to find new customers.
- Failure to deliver the contracted services with sufficient quality can lead to litigation for damages well beyond the value of the item in dispute.

4. Distributors

- Distributors are in effect wholesale customers. All the comments about customers therefore apply.
- Some distributors depend on few or even one source of supply (e.g. a distributor of a new motor vehicles). Failure of that one source of supply could damage that distributor on many different ways. It can even cause it to fail if an adequate replacement supplier is not found soon enough.

5. Regulators

- There are various regulators who, in many different ways, will take a continuing interest in the origination.
- Failure to satisfy the statutory and other requirement of these regulators can result in them imposing fines, restricting business or closing down the business altogether.
- The losses therefore can range from financial, reputational damage and even closure.

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6. The Media

- The media has many firms
- Local and international Newspapers
- Television and Radio
- Popular and Professional Magazines

7. Private Investors

- Private, monetary, investors can range from family, partners, employees, associated companies and other investors in an organization often they can be exposed to devastating loss than stock market investors who have more opportunity to spread their investments, and therefore the risk across different companies and market.
- There are also „"investors" who have a non-monetary stake in the organization. They stake their professional and personal reputations alongside that of the organization.

  They too can suffer loss alongside any damage to the organization itself. They can find it a very long and difficult process to rebuild this type of asset.

8. Banking Industry

- Banking and investor finance companies will maintain, throughout, an interest in the fortunes of those organizations to which they have provided money.
- If that money is perceived to be at greater risk due to an unexpected downturn in the strength of an organization, the cost of borrowing can increase significantly
- If the financier believes there is sufficient cause for concern, the assets that are the security for that loan can be sold. The lender can have that power under the terms of the loan or mortgage agreement.

9. Quoted Shareholders

- Quoted shareholders come to the organization through stock markets in various forms.
- Usually the investor has many choices beyond the subject organization and can switch funds away rapidly.
- Stock market sentiments however have many other influences (beyond the success of the individual quoted organization) and thus its behaviour becomes a risk in itself.
- Failing stock values can also increase the cost of borrowing capital. If leaders perceive that the relationship between total borrowings and the value of the company is narrowing they can demand higher interest rates and security.
- Single points of influence can affect shares widely. These influences include credit rating agencies such s Standard and Poor"s, and investment analysts employed by the bigger brokers and merchant bankers.

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10. The Environment

- Increasingly, there is public and statutory interest in the quality of the environment.
- It is a very wide subject not only covering pollution of the physical environment.

Q. Explain the term uncertainty

Under uncertainty condition, the decision maker has difficulty assigning probabilities to outcomes either because there is a lack of information or an absence of knowledge concerning what outcome can be expected. In other words, there are either two main possible outcomes or too many known facts or both. In this case, the decision maker cannot predict the outcome with any degree of confidence. In fact since the possible outcomes of the event under consideration and/or their probabilities are unknown, it is difficult to measure or forecast accurately. This situation is faced frequently by mangers when entirely new products or services are being introduced. Other examples of non-measurable events are salvation in religion, state of mind, etc. In addition, unlike risk, uncertainty is a subjective phenomenon. The implication is that two or more individuals are unlikely to have identical views of the outcome of decisions taken under condition of uncertainty. Consequently, it is very difficult to develop universally acceptable techniques for dealing with uncertainty. In practice, a decision maker faced with uncertainty would attempt to generate a probability distribution of possible outcomes on the basis of his personal judgment of the situation. For instance, any predication as to which of two teams, hitherto unknown, will win a match is bound to be subject. People are bound to give their opinions according to their fancies of the team.

Q. Distinguish between risk and uncertainty

1. Risk concerns variations in possible outcomes in a situation. Uncertainty is often used as a synonym for risk, although when so used it usually refers to objective (measurable or quantified) uncertainty.

2. Under uncertainty condition, the decision maker has difficulty assigning probabilities to outcomes either because there is a lack of information or an absence of knowledge concerning what outcome can be expected. On the other hand, under condition of risk, a person or a decision maker is faced with a situation in which results of an action or decision are not totally known, but will probably fall within a possible range of outcomes

3. In summary, risk is associated with measurability while uncertainty with non-measurability of the event(s) or the error(s) of forecast about future situation(s). Q. Differentiate between objective and subjective risks

Subjective Versus Objective Risk

Trieschmann, Gustavson and Hoyt (2001: 5) draw a distinction between subjective and objective risks. According to them, subjective risk refers to the mental state of an individual who

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experiences doubt or worry as to the outcome of a given event. In addition to being subjective, a particular risk may also be either pure or speculative and either static or dynamic. Subjective risk is essentially the psychological uncertainty that arises from an individual‟s mental attitude of state of mind.

Objective risk differs from subjective risk primarily in the sense that it is more precisely observable and therefore measurable. In general, objective risk is the probable variation of actual from expected experience. This term is most often used in connection with pure static risks, although it can also be applied to the other types of uncertainties.

Q. Discuss the different attitudes to risk

Attitude to risk could be approached from three angles:

a) Risk averter

b) Risk optimist/risk seeker

c) Risk neutral

To be risk averse implies that a person is willing to pay in excess of the expected return in exchange for some certainty about the future. To pay an insurance premium, for example, is to forgo wealth in exchange for the insurer‟ promise that covered losses will be paid. Some people refer to this as an exchange of a certain loss (the premium) for an uncertain loss. An important aspect of the exchange is that the premium is larger that the average or expected loss because insurer expenses and profit are included. A person willing only to pay the average loss as a premium would be considered risk neutral. Someone who accepts risk at less than the average loss, perhaps even paying to add risk such as through gambling is a risk seeker.

One person may be very cautious and averse to taking chances, whereas another may be highly optimistic regarding uncertain outcomes: the former (risk averter) is likely to arrive at higher loss probability estimates than the latter (risk optimist). Someone who is strongly averse to accepting even the smallest variation in outcomes from the expected may choose to insure, whereas a less risk adverse individual may be prepared to carry the risk himself. In fact, attitude to risk influences not only subjective estimates of probability but also risk handling decisions.

What causes one person to be more risk averse than another? This is a question best answered by psychologists, sociologists, or anthropologists. However, it is safe to say that family and societal influences, genetics, and religious / philosophical beliefs all play an important role. Somewhat less clear is the relationship between a Person‟s risk aversion and his or her uncertainty; a problem that is influenced by the imprecise way the terms “aversion” and uncertainty” commonly are used. In some respects, uncertainty could be affected by aversion. For example, an individual might be so wary of risk in general that he/she would tend to discount

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his / her own judgment regarding a particular risk. In that respect, her/his own level of uncertainty regarding a particular risk might be driven higher by her / his aversion to risk. In other situations, it is possible to say that uncertainty influences aversion, in that a person consistently exposed to an environment of seemingly random and unpredictable events (say, a citizen of Sarajevo) might eventually develop a high level of aversion to risk. (Williams, Smith and Young, 1995: 7) Some scholars have taken a different approach in relating to risk, risk aversion, and uncertainty to one another.

For instance, William and Heins (1989) discuss risk as consisting of objective and subjective components. Objective risk refers to the measurable component of risk, while subjective risk reflects an individual reaction to (attitude towards) risk. In this approach, uncertainty becomes an aspect of subjective risk.

Q. Explain the meaning of profitability ratio

Profitability Ratios

Profitability ratios show a company's overall efficiency and performance. We can divide profitability ratios into two types: margins and returns. Ratios that show margins represent the firm's ability to translate sales dollars into profits at various stages of measurement.

Ratios that show returns represent the firm's ability to measure the overall efficiency of the firm in generating returns for its shareholders.

One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line and its return to its investors. Profitability measures are important to company managers and owners alike. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors. Q. Discuss the five basic profit ratio.

1. Operating Profit Margin

Operating profit is also known as EBIT and is found on the company's income statement. EBIT is earnings before interest and taxes. The operating profit margin looks at EBIT as a percentage of sales. The operating profit margin ratio is a measure of overall operating efficiency, incorporating all of the expenses of ordinary, daily business activity. The calculation is: EBIT/Net Sales = %. Both terms of the equation come from the company's income statement.

2. Net Profit Margin

When doing a simple profitability ratio analysis, net profit margin is the most often margin ratio used. The net profit margin shows how much of each sales dollar shows up as net income after all expenses are paid. For example, if the net profit margin is 5%, that means that 5 cents of every dollar is profit. The net profit margin measures profitability after consideration of all

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expenses including taxes, interest, and depreciation. The calculation is: Net Income/Net Sales = %. Both terms of the equation come from the income statement.

3. Cash Flow Margin

The Cash Flow Margin ratio is an important ratio as it expresses the relationship between cash generated from operations and sales. The company needs cash to pay dividends, suppliers, service debt, and invest in new capital assets, so cash is just as important as profit to a business firm. The Cash Flow Margin ratio measures the ability of a firm to translate sales into cash. The calculation is: Cash flow from operating cash flows/Net sales = %. The numerator of the equation comes from the firm's Statement of Cash Flows. The denominator comes from the Income Statement. The larger the percentage, the better.

4. Returns Ratios

Return on Assets (also called Return on Investment) The Return on Assets ratio is an important profitability ratio because it measures the efficiency with which the company is managing its investment in assets and using them to generate profit. It measures the amount of profit earned relative to the firm's level of investment in total assets. The return on assets ratio is related to the asset management category of financial ratios.

5. Return on Equity

The Return on Equity ratio is perhaps the most important of all the financial ratios to investors in the company. It measures the return on the money the investors have put into the company. This is the ratio potential investors look at when deciding whether or not to invest in the company. The calculation is: Net Income/Stockholder's Equity = _____%. Net income comes from the income statement and stockholder's equity comes from the balance sheet. In general, the higher the percentage, the better, with some exceptions, as it shows that the company is doing a good job using the investors' money.

Q. Use matrix policy to analyse organization cost, revenue and profits.

Table 2.2: Expanded Policy Analysis Matrix

	Revenues	Costs		Profits
		Tradable Inputs	Domestic Factors	
Private Prices	A	B	C	D
Social Prices	E	F	G	G
Diverges and efficient policy	I	J	K	L
Effects of market failures	M	N	O	P
Effects of distorting policy	Q	R	S	T
Effects of efficient policy	U	V	W	X

Table Notes:

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Private profits, D, equal A minus B minus C. Social profits, H, equal E minus F minus G. 3 0utput transfers, 1, equal A minus E; they also equal M plus Q plus U. lnput transfers, J, equal B minus F; they also equal N plus R plus V. Factor transfers, K, equal C minus G; they also equal O plus S plus W. Net transfers, L, equal D minus H; they also equal I minus J minus K; and they equal P plus T plus X.

Q. What is Cost Benefit Analysis?

Meaning of Cost benefit analysis

Cost-Benefit Analysis (CBA) estimates and totals up the equivalent money value of the benefits and costs to the community of projects to establish whether they are worthwhile. Cost-Benefit Analysis (CBA) estimates and totals up the equivalent money value of the benefits and costs to the community of projects to establish whether they are worthwhile. These projects may be dams and highways or can be training programs and health care systems.

Q. Discuss the principles of CBA

Principles of Cost Benefit Analysis

There must be a Common Unit of Measurement

In order to reach a conclusion as to the desirability of a project all aspects of the project, positive and negative, must be expressed in terms of a common unit; i.e., there must be a "bottom line." The most convenient common unit is money. This means that all benefits and costs of a project should be measured in terms of their equivalent money value. A program may provide benefits which are not directly expressed in terms of dollars but there is some amount of money the recipients of the benefits would consider just as good as the project's benefits. For example, a project may provide for the elderly in an area a free monthly visit to a doctor. The value of that benefit to an elderly recipient is the minimum amount of money that that recipient would take instead of the medical care. This could be less than the market value of the medical care provided. It is assumed that more esoteric benefits such as from preserving open space or historic sites have a finite equivalent money value to the public.

Not only do the benefits and costs of a project have to be expressed in terms of equivalent money value, but they have to be expressed in terms of dollars of a particular time. This is not just due to the differences in the value of dollars at different times because of inflation. A dollar available five years from now is not as good as a dollar available now. This is because a dollar available now can be invested and earn interest for five years and would be worth more than a dollar in five years. If the interest rate is r then a dollar invested for t years will grow to be (1+r)t. Therefore the amount of money that would have to be deposited now so that it would grow to be one dollar t years in the future is (1+r)-t. This called the discounted value or present value of a dollar available t years in the future.

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When the dollar value of benefits at some time in the future is multiplied by the discounted value of one dollar at that time in the future the result is discounted present value of that benefit of the project. The same thing applies to costs. The net benefit of the projects is just the sum of the present value of the benefits less the present value of the costs.

CBA Valuations Should Represent Consumers or Producers Valuations As Revealed by Their Actual Behavior

The valuation of benefits and costs should reflect preferences revealed by choices which have been made. For example, improvements in transportation frequently involve saving time. The question is how to measure the money value of that time saved. The value should not be merely what transportation planners think time should be worth or even what people say their time is worth. The value of time should be that which the public reveals their time is worth through choices involving tradeoffs between time and money. If people have a choice of parking close to their destination for a fee of 50 cents or parking farther away and spending 5 minutes more walking and they always choose to spend the money and save the time and effort then they have revealed that their time is more valuable to them than 10 cents per minute. If they were indifferent between the two choices they would have revealed that the value of their time to them was exactly 10 cents per minute.

Q. What are the challenges of CBA

The Challenges of CBA

The most challenging part of CBA is finding past choices which reveal the tradeoffs and equivalencies in preferences. For example, the valuation of the benefit of cleaner air could be established by finding how much less people paid for housing in more polluted areas which otherwise was identical in characteristics and location to housing in less polluted areas. Generally, the value of cleaner air to people as revealed by the hard market choices seems to be less than their rhetorical valuation of clean air.

Q. Discuss the decision criteria for project

Decision Criteria for Projects

If the discounted present value of the benefits exceeds the discounted present value of the costs then the project is worthwhile. This is equivalent to the condition that the net benefit must be positive. Another equivalent condition is that the ratio of the present value of the benefits to the present value of the costs must be greater than one.

If there are more than one mutually exclusive project that have positive net present value then there has to be further analysis. From the set of mutually exclusive projects the one that should be selected is the one with the highest net present value.

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If the funds required for carrying out all of the projects with positive net present value are less than the funds available this means the discount rate used in computing the present values is too low and does not reflect the true cost of capital. The present values must be recomputed using a higher discount rate. It may take some trial and error to find a discount rate such that the funds required for the projects with a positive net present value is no more than the funds available. Sometimes as an alternative to this procedure people try to select the best projects on the basis of some measure of goodness such as the internal rate of return or the benefit/cost ratio. This is not valid for several reasons.

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