Syllabus of innovation management

MODULE ONE: EXPLORING INNOVATIONS 8 HOURS

Concept of innovation, historic retrospective, typology of innovations, innovation process, Macroeconomic view of innovation approaches to innovations, Assumptions and barriers to innovations, Innovation sources, i.e. science and R&D, technology transfer, push and pull approaches. Processes used to explore innovations along the technology, market and strategy dimensions as the innovation moves from idea to market

MODULE TWO: APPLICATION OF INNOVATION 8 HOURS

Organizational aspects of innovation, Soft methods and techniques of innovation management, Creative approaches, Systemic and analytical methods and techniques of innovation management, Economic aspects of innovations encompassing sources of innovation financing

MODULE THREE: MARKETING INNOVATION PRODUCTS 5 HOURS

Strategic considerations on innovations, innovation platforms that incorporate new product development, process innovations, service innovation, service design innovation, multiple product options, portfolios and standards

MODULE FOUR: EVALUATION OF INNOVATION 5 HOURS

Effectiveness evaluation, integration of risks, factors influencing economic effectiveness, Post implementation analysis of innovation projects, Intellectual property of innovations, legal aspects of innovations

MODULE FIVE: INNOVATION IN REALITY 4 HOURS

Mindset, lateral thinking, out of box approach, creativity, innovation for problem solving

-

MODULE :ONE

EXPLORING INNOVATIONS

MODULE ONE: EXPLORING INNOVATIONS

Concept of innovation (5marks)

- Innovation is a new idea ,device or process .Innovation can be as the application of better solution that meet new requirements, in articulated needs or existing market needs
- **Innovation generate great ideas has become an urgent managerial priority. Managers need to encourage and champion ideas and need to help their organizations incorporate diverse perspectives**
- **Word can be describe as**

- Thinking Differently
- Never been thought of before

DEFINITION

- According to Stephen P.Robbins ‘ Innovation is a new idea applied to initiating or improving a product, process or services”

- Peter Drucker’ Innovation is the means by which the entrepreneur either creates new wealth producing resources or enchanced creating wealth

Historic or Retrospective

- The 20th century was characterized by growing trends of consumption and the introduction of new products destined to satisfy the needs and wants of consumers
- New products offered consumers various levels of innovation, and the abundance of these new products made technological innovation a central characteristic of 20th century consumer culture.
- What were the most outstanding innovations of the 20th century?
- Home refrigeration?
- The radio?
- Television? Digital computers? The airplane? The air conditioner? Indeed, not only were these products innovative when they were first introduced, but they also had a significant impact on a daily basis on the way consumers act and think.

Characteristics of innovation (5marks)

- Relative Advantage: This means that this product characteristics is based on consumer perception. if a consumers sees the new product attribute as better than existing ones .it does not necessarily means that attribute is actually better
- Compatibility : It is how the consumer perceives the new product or service into the person's lifestyle choice. When the product or service closely matches the individual's needs compatibility with consumer.
- Complexity: consumer considers the innovation to be difficult utilize in known as complexity
- Trialability: reduces the consumer's perceived risk of making a purchase of the product. Samples or trail offering
- Observability: consumers observe the innovation and its positive effects is known as obervability

Essential ingredients of Innovation (5marks)

- Something new: every one wants something new every one likes something
- Better than what exists: if a consumers sees the new product or services to be better than the attributes of similar existing product
- Economically viable: if the new and improved product makes more sales that in turns make more profits. It makes the organization more profitability.
- Widespread appeal: there is a basic appeal to the new innovation . if not it won't sell.if the new improved product, then it might have very limited appeal.then it is not a true innovation.

Types or Typology

1. Product innovation: It means new products or improvements on product .New models of phone , cars watches

2. Process innovation: where some part of the process is improved to bring benefits

3. Paradigm Innovation: where the major shifts in thinking cause changes eg; landline shifts to smarts phone

4. Radical innovation : It is a major breakthrough as a result of technological invention that offsets industry as a whole

5. Systems Innovation : It creates a new functionality by assembling parts in new ways

continuation

6 .Incremental Innovation :Incremental innovation force organization to continuously improve their product and services and keep ahead of the competition.

7. Additive innovation: It is fully exploiting already existing resources ,such as product –lines can achieve good results.

8. Complementary innovation : It offers something new and change the structure of the business

9. Technology innovation :The goal of technology innovation is to generate new product with significant technology advancement.

INNOVATION PROCESS (10MARKS)

Innovation process involve 9 steps:

Understanding the problems involve 3 steps

Gathering information

Clarifying the real problems

Setting innovation Goal posts

Imagination consists of 3 steps

Seeking stimuli

Uncovering insight

Identifying ideas
Actions and implementation
Developing the innovative roadmap
Gaining commitment
Implementing the innovation road map

1.Understanding the problems involve 3 steps

- i) Gathering the information: choose the team that will address the problem
- Gather facts , opinions, and details from different perspective
- Apply “who/what/where/why/how /when” to the problems
- Explore the external market place for more information
- Analyze the problems and choose the best information with help entrepreneur
- ii) Clarifying the real problems: following activities
- Broaden awareness and clarification of the problems
- Identify and list the likely causes of the problems
- Draft option for the problem statements
- Choose the problems statement that best describe what is believed to be the most significant or real problem

iii) Setting innovation goal posts: entrepreneur perform following activities

- Explore the range of acceptability for option and solution for this particular problem

- Making important decision making
- Review previous criteria
- Set the innovation goal post

2) Imagination :following 3 steps

i)Seeking stimuli : gathering to achieve that goal .

- Research past, present and future
- Explore multiple perspective
- Explore the market place

ii) Uncovering insight : use creative connection

- Suspend judgement
- Choose the high priority

iii) Identifying ideas : consists following activities

- Idea to solve one problems
- Compare and select the best ides
- Build these idea in fuller concept

3) Action and implementation : ideas execute and implement

i) Developing the innovation road map

- Build them into future plan
- Investigate resources timing and responsibilities
- Choose optimal plan
- Considered the impact the plan will have the rest of the organization

ii) Gaining commitment

- Identify who will support the plan
- Explore the commitment to the optimal plan

- Prepare the plan for presentation
- Re-adjust plan
- Finalize commitment to the plan

iii) Implementing the innovation road map:

- Release the final plan into action
- Adjust the plan where needed
- Review the entire process and result

- APPROACHES TO INNOVATION: (10 marks)

1.Idea –driven innovation :adopt this approach are often volatile markets offering product with short life –cycle such as fast moving consumers and telecom services

This approach collects and generates a number of ideas which are filtered until one is selected

Process time is 1-5 years

Once an idea is selected for development ,it seldom then discarded

2.Research driven ideas : organization that take this approaches would do best to align themselves with industries such as pharmaceutical and oil and gas exploration

This approaches collects a huge number of ideas generated from research and selected for development

- Many project will be rejected at any stages until completion
- Time taken up to 10 years

3) Analysis driven innovation: it support shifting markets and offer product with long life cycle such as automotive manufacturers and software producers

- Draw ideas in a systematic way from analysis of the market ,competitors and the organization’s internal capabilities.
- This process take 1-10 years

ASSUMPTION AND BARRIERS: (10 marks)

- A barrier to innovation is any factor that influences negatively the innovation process .barriers are also known as obstacles ,constraints
- Assumption in the barriers approach.

1.Assumption on unwelcome things : innovation is inherently a good thing and any resistance to it by employees or managers which could be interpreted as a barrier , is unwelcome

2. Tolerance to risk :assumed that removal of barriers will some how restore the natural flow of innovation .it seems that the removal of barriers is a necessary but not sufficient

3. Barriers occasionally turn inti positive : Assumption is that existence of barriers is by itself a bad thing and all efforts should be made to remove them

BARRIERS TO INNOVATION:

Classified as external and internal barriers

External barriers :Depends on external environment companies needs to identify ,describe , and analyse external barriers

1 . The market –related barriers :Lack of collecting market information

i) Insufficient appropriability(i.e failed to create a profit on innovation product and service

ii) Supply and demand deficiencies, lack of skilled employees in the market ,lack of innovation users

iii) Nature and intensity of competition within the market affect the profitability and strategy of firm

- 2. Government: govt and its policies and regulation are a frequent sources of barriers to innovation.
- Many policies directly and indirectly related to innovation are designed to correct market failure.
- Bureaucratic procedures in getting license or grant and in other contact with governmental organization are also a frequent causes of barriers
- 3. other category includes
- Technical barriers it includes risk of technology obsolescence, destruction of a firms competences with change of technology and dangers from picking the wrong technology
- Inter –organizational Barriers: external barriers may also arise at the inter-organizational level when firms have to co-operate at regional level, national or international level
- Discourage the product changes or access to distribution channels is problematic

- INTERNAL BARRIERS : related barriers relate to the organizational members,
- i) People related lack of commitment of top management to innovation ,
- Lack of toleration of failure, lack of decision making

ii) Structure related : structure affects the behavior of organizational members during the innovation process and determines the problem-solving capacity of the firm. Structural obstacles includes inadequate communication flows, inappropriate incentive system, problems in collaboration due to different values , motivations and goals

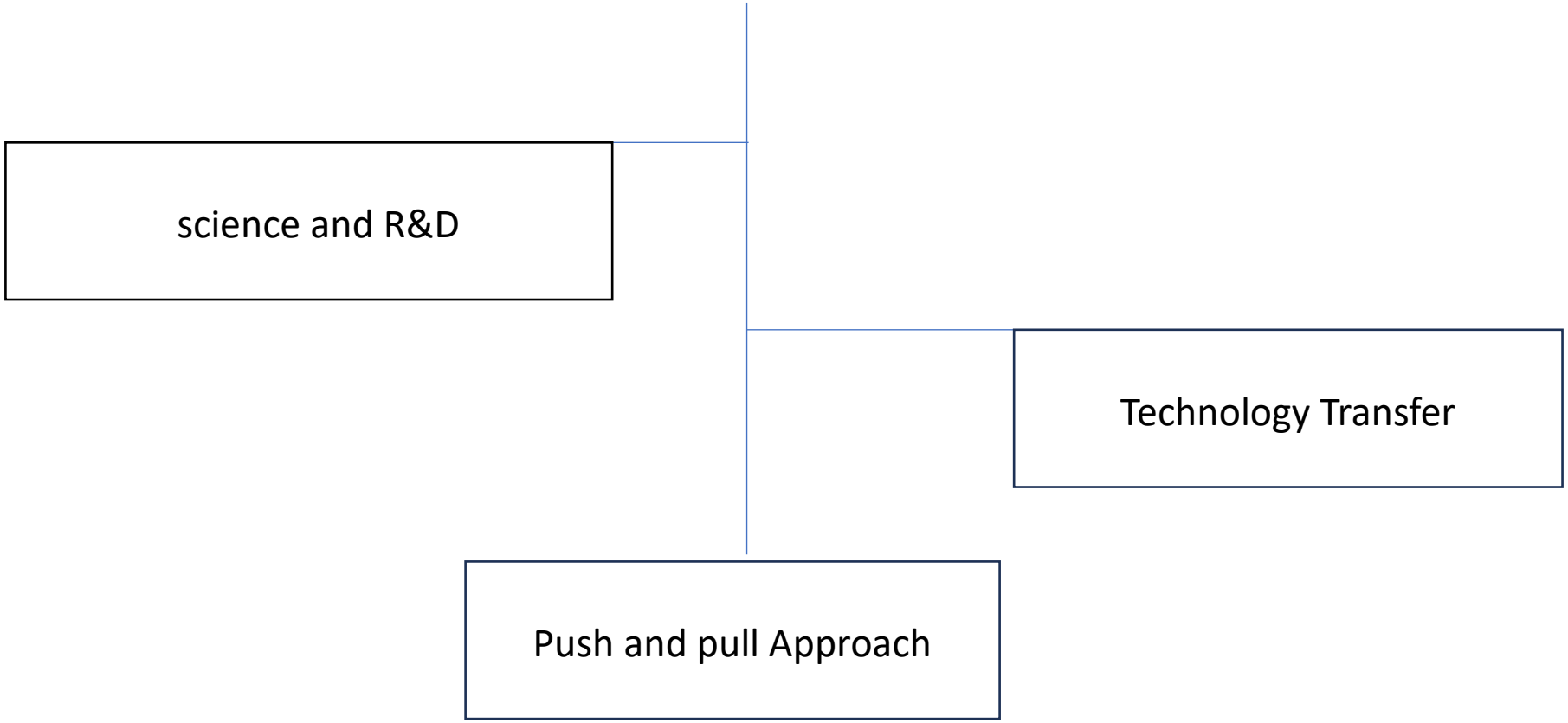
iii) Strategy related: technical people may also be unware of strategy and objectives and cannot persuade senior managers of the benefits ans necessity of new technology, senior managers being technologically ignorant cannot see the benefits themselves

iii) Other barriers may be goal –related in the sense that senior managers may fail to appreciate the necessity for innovation

iv) Resources related : barriers includes lack of fund of internal fund(i.e cash flow) and lack of machinery , testing or other technical equipment

Important barriers may arise from the lack of an own research and development department low percentage of organizational resources dedicated development work , technical problems due to inadequate experience or knowledge.

INNOVATION SOURCES



Access to information is one of keys to successful innovation.innovation can be a product of internal research and development or of market demand.

Innovation sources could be both inside the firm and outside of firm.

Science and R&D

In science –based innovation is based on research, which is to a large extent carried out outside firms. Innovation is directly depend on strong link between the firms and academic research.

- The new external scientific knowledge produced by the academy has to be quickly transferred by the industrial enterprises into the applied research and development.

1a.Internal Research Development: one of the most important sources of the firm's own research and development efforts.

research can refer to both basic research and applied research.

Basic research is effort directed at increasing understanding of the topic or field without a specific immediate commercial application in mind.

Development refers to activities that apply knowledge to produce useful devices materials, or processes.

2a)Universities: Many universities encourage their faculty to engage in research that may lead to useful innovation. If an innovation is successfully commercialized the university typically shares the income with individual investors

3a) Government funded research : government of many countries actively invest in research through their own laboratories, the formation of science park and incubators and grants for other public of private research entities

- 2. TECHNOLOGY TRANSFER: Technology transfer is the process of sharing of skill, knowledge, technologies, method of manufacturing, samples of manufacturing and facilities among government and other institutions to ensure that scientific and technological developments .

- Types of Technology Transfer

1.International Technology transfer: in which the transfer is across national boundaries . Technology transfer from industrialised countries to developing countries

2. Regional technology Transfer: In which technology transfer from one region of the country to another

3. Inter-firm technology transfer: In which technology transfer from one firm to another

4. Cross-industry or cross –sector technology Transfer : In which technology transferred from one industrial sector to another eg; space programme to commercial application

5.Intra-firm Technology Transfer: In which technology transferred within a firm from one location to another

- Technology –push and market –pull Approaches

Both technology –push and market pull approach are considered as potential sources of innovation .

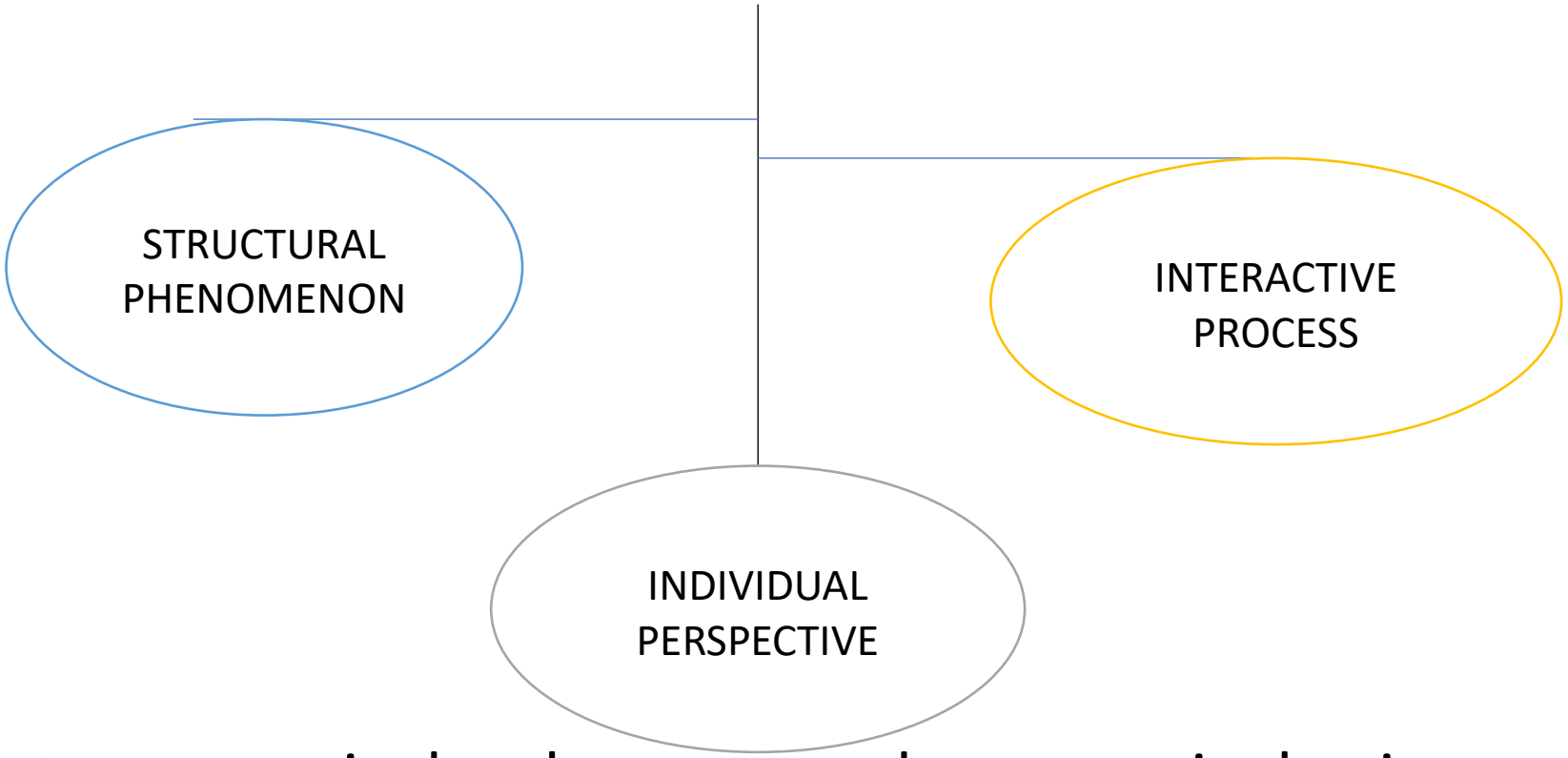
- Technology push approach is based on a technological impulse to innovation
- Market –pull approach starts from future customer and his unsatisfied needs

- Technology –push approach
- In technology –push approach anew invention is “pushed” through R&D ,production ,and sales function onto the market without proper consideration of whether or not it satisfies a user need.
- This approach does not believe in an innovation process driven by the market
- Sources of innovation stems from the research and development activities of the company through the identification and development of new technologies ,allow to realise new product

2) Market –pull Approach :The market –pull approach is primarily characterized by the role that the comprehension of market needs plays over the introduction of new technologies

- The main source of innovation is the market and the new product development is direct consequences to explicit needs by consumers.
- The idea for the innovation originated with communication about a customer needs , followed by a research for technical solution to meet that need.
- These ideas could emerge from the frequent interaction between users and innovating firms.
- Market –pull approaches tend to occur when the customers are highly sophisticated and excellent sources of ideas for innovation.

- # EXPLORING INNOVATION



Innovation to economic development and progress in business and industry

Is discussed through three different methods of studying innovation.

- Structural phenomenon: The structuralist perspective suggests that innovation is determined by structural characteristics and antecedents.

characteristics such as

. Environment

. Size

.Complexity

.differentiation

.Formalization

. Centralization

. Strategic type

2)Interactive process: The innovation process perspective suggests that innovation is produced by the interaction of structural influences and the action of individuals . characterized by

- Shocks
- Proliferation
- Innovation capabilities
- Context

3) Individualist perspective : There is a great need to recruit and retain innovation individuals to create innovation firms

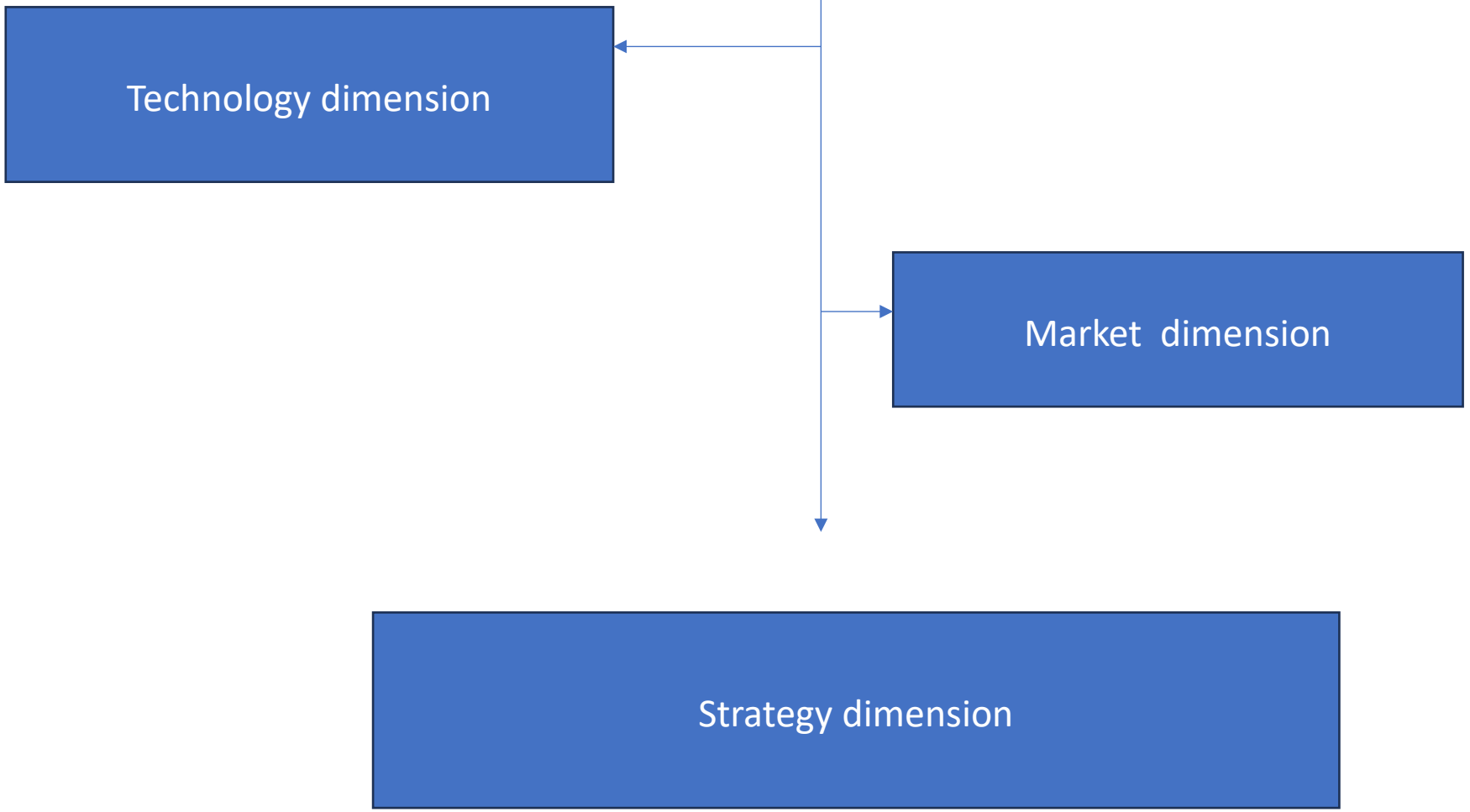
- Human resources professionals should seek individuals who create have high

Levels of energy, have a sense of ownership and have excellent communication skills

- managers must have awareness of the external environment.
- The mangers must aware of and tailor the skills capabilities of their employees.

- Dimension of exploring innovations

- As innovation moves from idea generation to market launching,it can be explore along the following aspects.



1. TECHNOLOGY DIMENSION: diagnoses the technical uncertainty of innovation project. Ahigh degree of innovation is indicated if the technological know how was not completely know . technological dimension of annovation is a device or process that represents a change in the current methods of producing good or services.

Technological dimension include the following factor:

- New material: Material can always be seen as components of engineering system ,forming the basis of new products and leading to innovation. For many companies and particularly those engaged in the aerospace ,energy , transportation , construction ,high –tech electronic industries.
- New components : it includes new elements into an organization's production or service operation to produce a product or render a service with aim of achieve lower cost and higher product quality.

- Modular innovation : are achieved by using new types of components but in previously known configuration

- New technologies: Another factor responsible for the innovation is use of new technology for production processes in the current market. Technology not only increasingly creates new product, but also plays an increasing role in the development and delivery of services.
- New technique of production: new technique of production or manufacturing is also an important way of innovation. New production processes that are based on new production technologies changes in the organization of the production process

2 MARKET DIMENSION: market dimension analyses how a firm's new products score against competitors in term of customer satisfaction , competitive advantage and opening up new markets. The degree of market innovation provides information on how greatly the innovation differs from existing products in the market.

Market dimension includes following factors:

- New customer needs: innovation can be created with the help of focusing on new customer needs. Companies focusing on new customer needs and requirements design innovative products.

- New customer group: satisfying the needs of new customer group is also a factor for innovation. If a new company can set itself up in such a way as to serve this niche efficiently, then it would have a new customer segment at its disposal

-

3.New marketing mix: marketing mix deals with 4p's elements related to firm.

by designing new market mix ,innovation can be created in the market dimension. This kind of innovation is based on the value to the customers and to improve competitive advantage.

4.New distribution channels : Altering distribution channels may also provide innovation to firms. Using new distribution channels to reach enlarged customer group.

- Strategy dimension: strategy dimension is also important factor for creating innovation. Firms along with their expert design new innovation strategies to gain the advantage . innovation should tied to the company strategy and built into the core competence of the business. A company must choose to be very good at strategy and other management practices and the oractices must be aligned and permed at the same time.

Strategy dimension includes the following factor:

1. The managed innovation process: It covers the sequences of activities from the beginning of an initiative through implementation combining traditional and non- traditional approach to business strategy.. The innovation process is divided into two broad modes of thinking

❖ Divergent thinking: Divergent thinking lies at the heart and is open minded, exploratory and inquisitive, deploying non-traditional ,creative thinking and future visioning techniques.

- Convergent thinking : includes the traditional business tools ,techniques and data analysis ,potential opportunities are evaluated and prioritized, refined and then often moved through a formal decision based stage gate process until the most promising ones are implemented.

.2. Strategic Alignment: Strategic alignment is the process of engaging short term leadership team, a broad cross section of the organization and key external stakeholders in the developments of a shared vision and the path forward. Strategic alignment can be two types internal alignment and external alignment

- In case of the INTERNAL ALIGNMENT internal team of the organization will drive an innovation initiative while in case of EXTERNAL ALIGNMENT to gather insights from partner organization by formally making them a part of the co-creation process.

- 3 . Industry foresight : It is a top down approach that explore the drivers, trends, enablers and dislocations within one or more industries .by this steps an organization can develop a compelling proprietary view of the future
- 4. Consumer/Customer Insight: customer insight is a qualitative , bottom up approach that leverage insights into the behaviors, perceptions and needs of the current and potential consumer / customer by involving them as true partners in the innovation process.

It can be extended to channel partners, employees, investors early adopted non-users etc.

- 5. Core Technologies: After having a clear idea of a consumer needs it is only essential to consider the organization's technologies but also other capabilities that are integral to success. Such competencies include intellectual property or patents , unique relationships with suppliers and partners, brand equity ,speed and operational agility or business process

- 6. Disciplined implementation: Disciplined implementation includes transition to specific projects or programmes, technical product development and design, developing a distinctive value proposition through consumer based on brand development, building a business it also hiring , and training , new venture ,channel strategies etc.

MODULE -2
APPLICATION OF INNOVATION

MODULE -2

APPLICATION OF INNOVATION

INTRODUCTION OF INNOVATION MANAGEMENT:

Innovation management is all about taking over and guiding the four key phases from initial idea through the product launch, combined with the lifecycle , in the company.

Phase-1: The idea is formulated, an analysis of the state of the art is conducted and the disadvantages of the current technical solution are apportioned .ie the process of potential innovation gets under way.

Phase-2 : The process of protecting the innovation begins with the preparation of a description of the problems solution and the filling of write application.

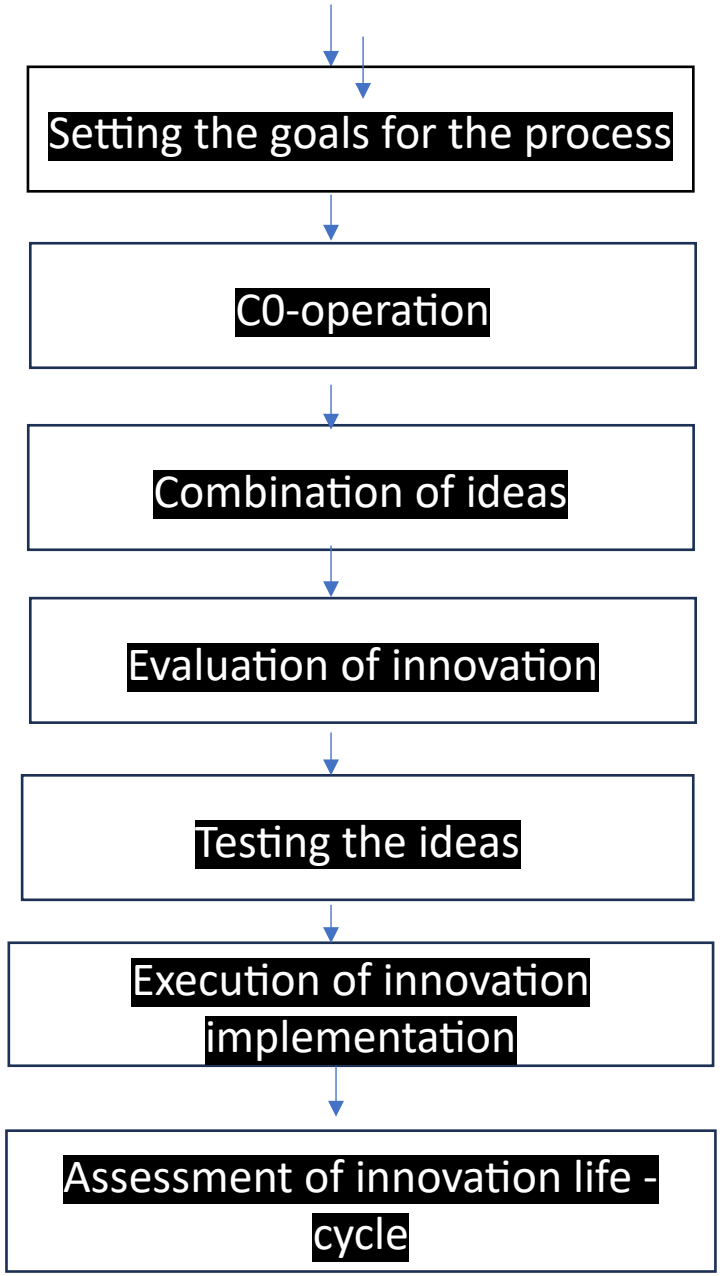
Phase-3: covers enforcement to defense and preservation.

Phase-4: covers the implementation ,launch and application of the innovation

- DEFINITION: “ Innovation management can de defined as the attempt to systematically shape and influence innovation process in the company in such a way that the company an optimal returns from the creation and marketing of new products ,services , and processes”.
- In this context industrial property right such as patent, utility, models, and copy right constitute instrument of innovation management

- OBJECTIVES OF INNOVATION MANAGEMENT:
- Deciding upon the innovation strategy the best fit the organization environment and enables its vision.
- Define criteria for the selection and prioritization of project.
- Effect the necessary structural changes to arrange skills through out the organization in competent centers.
- Innovation of management helps in developing organizational culture and improving the overall performance
- Innovation management translates the competitive and to manage the risk across the whole organization.
- To enable the organization to arrange right number of people ,right kind of people at right time and right place for the purpose of innovation projects.

- Phases of an innovation management process:



1.) Setting the goal for the process: innovation always begins with a goal in mind. It is many times based on finding the solution to a problems . once organization has this goal, it should be discussed among everyone in the solving team.

- This team may consists of a couple of people , a group of people ,or may even be all of the organization ‘s employees.it may involves others such as the customer (who can provide suggestion and feedback based on their own experience with the product or service)

- 2) Co-operation: The innovation team should work together so that instead of trying to come up with an idea separately , they can bounce ides off ane another and create a collaborative solution.

- 3) Combination of ideas : once the idea are in ,choose the best ones and then consider whether they can be combined to create an even greater idea. Often strong idea will be complimentary to one another and will join to create an even better result.
- 4) Evaluation of innovation: This is an important and yet all too frequently overlooked of the innovation management process. When the best idea have been combined , fine tuned and polished . This helps to select the ideas with the greatest potential from among several that appear equally capable of being successful.
- 5) Testing the ideas: once the idea with the greatest potential have been identified, they can be tested so that can be better developed. One of the most common means of testing a product or services.

- 6) Execution of innovation implementation: this ideas that survive the testing process can be further developed and altered until they are ready to be executed as a part of the business offering .the execution of implementation is step that is unique to the business and, unless the new product causes the business to have drastically change the typical way that the go-to-market strategy.
- 7) Assessment of innovation life cycle after the execution of an ideas, its implementation needs to be carefully monitored and assessed in terms of a number of milestones that should be set. remember always customer in the mind also in execution phase and design the measuring system so that measure added value for the customer.

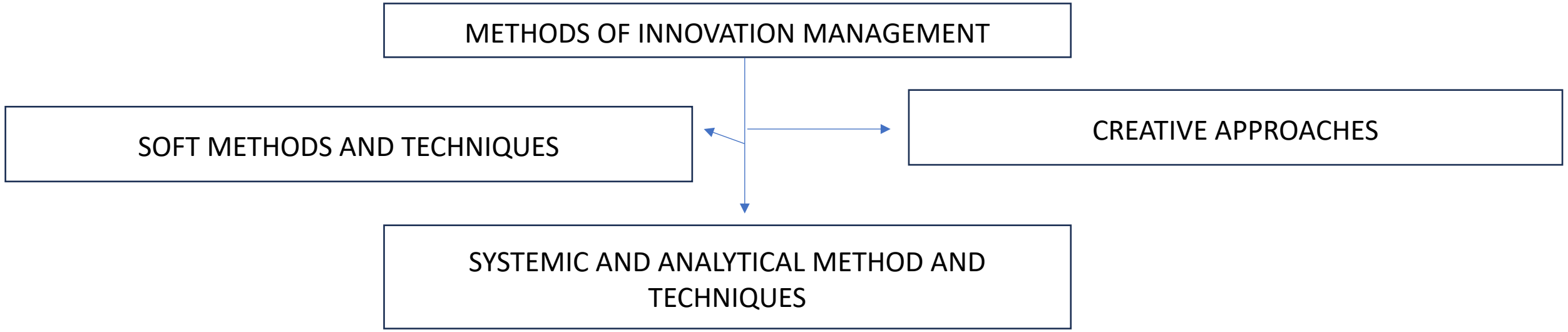
- ROLE OF INDIVIDUALS IN INNOVATION MANAGEMENT: Innovation management is challenging and hence requires high- potential managers. The main task of the manager is to identify the key role players within the innovation process and provide them with available resources in the organization .

- Two main contribution of the innovation process are technical innovators and technological gate keepers

1.) Technological innovators: scientist/engineer they generate idea in the organization . They are the initiators of the innovation process technical innovators or idea generators generally get frustrated if their ideas are constantly overlooked.

to avoid this , management should be able to identify potential ideas which have capabilities to get transformed

- 2) Technological gate keepers : They transfer knowledge between group within the organization by acquiring knowledge from outside(from firms or journal). Innovation managers should nurture technological gatekeepers who maintain inter- and intra –departmental information flows and must determine the appropriate managerial approach to achieve the desired information exchanges.
- METHODS /TECHNIQUES OF INNOVATION MANAGEMENT



- Soft methods and techniques of innovation:

innovation management is about managing both “hard” and “soft” factors. Innovation also involves “soft” elements, eg: learning ,development of skills, acquisition of capabilities, knowledge sharing ,which are of intangible nature and much more difficult to quantify .

Following Soft methods and techniques are used for innovation

A. Leadership ; Leadership plays a central role in the success and direction of a business. Organizations depend on successful leaders to communicate its mission, vision and goals, unite team members around those goals and then achieve them. These capabilities are especially important in time crises.

- **Leadership styles refer to the behavioral approach employed by leaders to influence, motivate, and direct their followers. A leadership style determines how leaders implement plans and strategies to accomplish given objectives while accounting for stakeholder expectations and the wellbeing and soundness of their team.**

- **1. Democratic Leadership**

A democratic leadership style is where a leader makes decisions based on the input received from team members.

The democratic leadership style encourages creativity and engagement of team members, which often leads to high job satisfaction and high productivity.

- **2. Autocratic Leadership**

Autocratic leadership is the direct opposite of democratic leadership. In this case, the leader makes all decisions on behalf of the team without taking any input or suggestions from them. The leader holds all authority and responsibility.

- **3. Laissez-Faire Leadership**

Laissez-Faire leadership is accurately defined as a hands-off or passive approach to leadership. Instead, leaders provide their team members with the necessary tools, information, and resources to carry out their work tasks.

- **5. Transactional Leadership**

Transactional leadership is more short-term and can best be described as a “give and take” kind of transaction. Team members agree to follow their leader on job acceptance; therefore, it’s a transaction involving payment for services rendered. Employees are rewarded for exactly the work they would’ve performed.

- **6. Bureaucratic Leadership**

Bureaucratic leadership is a “go by the book” type of leadership. Processes and regulations are followed according to policy with no room for flexibility. Rules are set on how work should be done, and bureaucratic leaders ensure that team members follow these procedures meticulously.

- **7. Servant Leadership**

Servant leadership involves a leader being a servant to the team first before being a leader. A servant leader strives to serve the needs of their team above their own.

2. PEOPLE without people there would be no ideas ,which brings us to the final cluster to consider when driving innovation-people. One element of unlocking the innovation potential of employees is to ensure that employees are trained in the skills and behaviors that innovation

when it comes to building employees innovation capabilities ,a common misconception is the one can either born a great innovator or one cannot.

If organizations are serious about innovation then they need to be serious about building employees capabilities in this area.

- 3. KNOWLEDGE MANAGEMENT: It is the process whose main objective is to generate , collect exploit the knowledge inside the organization in a continuous and systematic manner. and in this way improve its creative and innovative potential as a whole

It includes following elements :

a) Knowledge audits: knowledge audits as a process of evaluation and auditing of innovation capacity , gives an insight into current knowledge base in an enterprise.

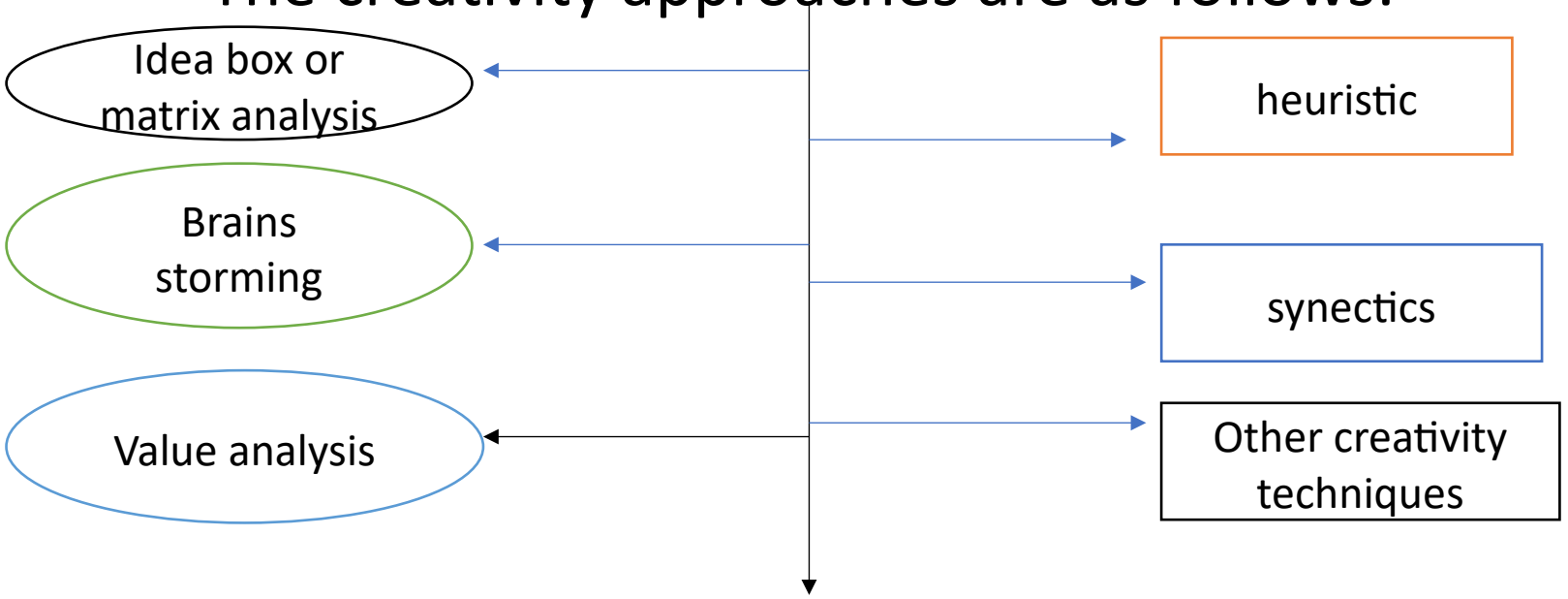
b) knowledge mapping : it gives the preview of the sources, flow , limitations in the process of knowledge transfer and exchange inside the organization.

c) Document management: it is the sources of knowledge and innovations , whether one talk about manuals, reports , methodologies or other forms of documents.

d) IP management : it is the ground of general corporate strategy. It includes protection of products, corporate intellectual property and result derived from an organization ‘s innovation.

- Creative approach : These are methods the encourage original thoughts and divergent thinking .some techniques require group of two or more people while other techniques can be accomplished alone. These methods includes word games, written exercises and different types of improvisation . Creativity techniques can be used to develop new materials for artistic purposes or to solve problems

The creativity approaches are as follows:



- 1) idea box or matrix analysis: in matrix analysis “idea box” is used to explore new ideas or alternatives.

There are four steps to generating an idea box:

1. Specifying the purpose or what one is trying to accomplish,
2. Identifying the parameter of the problems
3. Listing variation and
4. Trying different combinations.

Consider a situation in which the purpose is to gain citizen input and involvement in the city’s recreation department , but one is not sure how to do it and resources limitations are such that one will be limited in the number of approaches one can use. One could begin by asking itself what the parameters of the problem might be.

- Heuristics: it is an adjective for experience –based techniques that help in problem solving, learning and discovery.

A heuristic method is particularly used to rapidly come to a solution that is hoped to be close to the best possible answer , or optimal solution.

3. brainstorming: is a group method for obtaining new idea and business solution . The group are organized for sitting together and stimulate greater creativity by exchange of mutual experiences and participating in the discussion.

The four basic rules of brain storming are as under

1. No criticism is allowed
2. Quantity is desirable
3. Combination and improvement are sought from the members
4. Free wheeling is allowed

- 4. synetics : this technique improving creating problem solving. The word synetics means joining together different and apparently unconnected or irrelevant elements. In synetics problems are defined by making the strange familiar, ideas are sought by making the familiar strange

Synetics use 4 types

Personal analog ➡ direct analog → symbolic analog ➡ Fantasy analog ➡ value analog

1. Personal analog: it is use of emotion and feeling to identify an individual with the subject of a problem. In using a personal analog ,decision –maker actually imagine themselves as the object or problem.
2. Direct analog : It compare the problem with homogeneous facts, information or technology. A heating system might be compared with a volcano and from this new ideas may arise. The direct analog is similar to the problem or issue in term of facts , knowledge, or technology.

- 3 symbolic analog: it is the use of objectives and personal images. Symbolic analog making use of objectives and personal image to describe a problem
- 4. Fantasy Analog: it based on frued notion that creative thinking and wish fulfillment are strongly related .In a fantasy analog ,decision maker might ask themselves “what is the wildest fantasy about how to make this work”
- 5. value Analysis : value is a personal perceptive of a person’s willingness to pay for the performance delivered by a product ,process or project .good value is achieved when the required performance delivered by the product.

- Other creativity Techniques:

Techniques are as follows

1. METAPHOR: Metaphorical thinking is the ability to link two different things by recognizing in that in some they share a common trait or show a common principle
2. CHECKLIST: used in many area including management services, marketing and design . they prevent innovator from over looking key aspect of the problem.
3. VISUAL THINKING : use graphics , chart , diagram, model, and mind map , to represent the idea visually. They will give help to innovator an over view and see relationship clear and help to solve problems and generate idea.

- 4 .SWOT: this the technique used in strategic planning and stand for strength, weaknesses, opportunities, and threats.
- 5.Quality circle: A quality circle is an employee discussion group, usually of production operative under the guidance of a special trained leader . Circle meet periodically consider, analysis and resolve quality and production control difficulties.
- 6. SYSTEM ANALYSIS: system analysis break down a large problems into many smaller problems. It is an excellent techniques if the desired outcome of the problem-solving session a detailed understanding of a problems.

- SYSTEMATIC AND ANALYSIS METHODS AND TECHNIQUES OF INNOVATION MANAGEMENT

Are as follows

Nine window---Perception mapping----bio mimicry---ethnography---blue ocean strategy

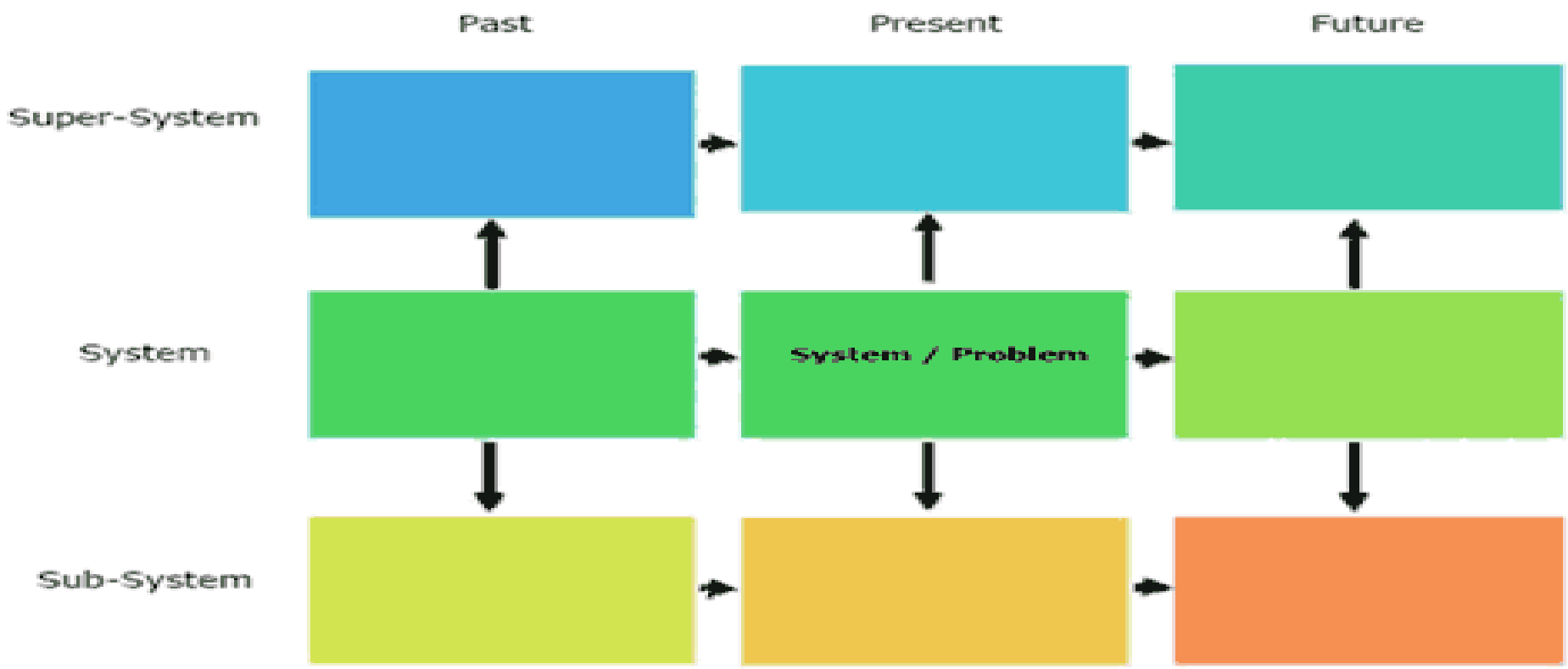
TRIZ theory of inventive problem solving or

(systematic way to understand and solve the problems)

The nine windows technique is defined as a method for exploring issues and their potential impacts by examining the past, present, and future of both high-level areas and their related subsections.

- Using the nine windows process and exploring a potential solution as a system with time-space dimensions can help break the psychological inertia associated with repeating the same actions and expecting the same results (e.g., "This is how we've always done things" and "Why bother changing things? We'll only get the exact same results").
- The eight routine causes of psychological inertia are:

1. Having a fixed vision (model) of the solution or the root cause.
2. False assumptions (trusting the data).
3. Specific terminology in a language that is a strong carrier of psychological inertia.
4. Experience, expertise, and reliance upon previous results.
5. Limited knowledge, hidden resources, or mechanisms.
6. Inflexibility (model worship), trying to prove a specific theory, stubbornness.
7. Reusing the same strategy.
8. Rushing to a solution, incomplete thinking.

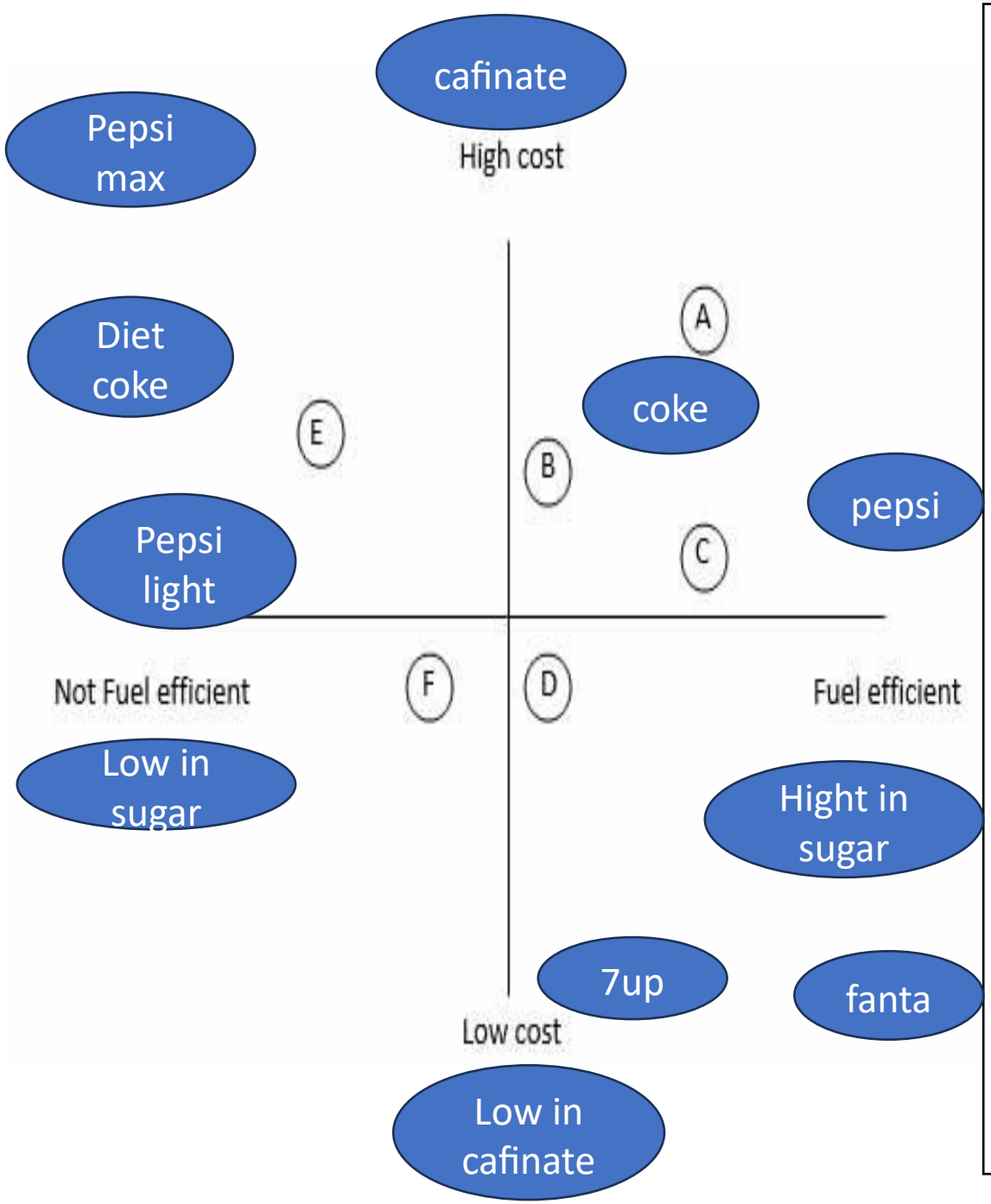


	Past	Present	Future
Super-system	Corporation where safety is not a priority	Corporation where message that safety is a priority has not gotten through	Corporation where safety is a priority
System	Employees take occasional risks to get the job done	Ladder slipped and employee was injured in fall	Injury rate will be unacceptable
Subsystem	Management has criticized workers who stop production in the face of danger	Workers remember the incidents, in spite of management's assertion that safety is paramount	Management has provided positive recognition for stopping production in the face of danger

- explore the problem at each of the three levels:
- **Super-system (or Macro system):** External environment and components that the problem or system interacts or may interact with
- **System:** The problem or system that was created
- **Subsystem (or Micro system):** A component or parts of the problem or system

- Perceptual Map is a diagrammatic or graphical mapping technique where perceptions of customers or potential customers are recorded on a plane with varying criteria. Also known as P-Map, typically the parameters that can be displayed on a perceptual map are brands, products, product lines, companies, competitors etc. The positions of various variables are relative on the perceptual map. Perceptual Mapping is the marketing technique of plotting P-Maps and using them for positioning analysis.
- Perceptual map mainly positions various companies with competitors on a 2D map visualizing their actual market position in terms of major marketing factors. Examples of axis factors can be quality of product or service, time of response, cost/price etc.

- **How is Perceptual Map recorded and prepared?**
- Users and customers are interviewed on various aspects of the parameters that are to be mapped on to the perceptual map. The qualitative feedback received from the end customers are mapped on to a scale and these are then placed on the perceptual map using a relative positing scale. A typical P-map has 2 factors but in actual market, there can be multiple factors on which customers rate the companies or brands. These multiple factors can be analysed using statistical software and using multifactor analysis. After the analysis these multiple factors can be combined to make 2 factors which can be used for P-Map.



The map above shows an example of Perceptual Map. Suppose a perceptual map is to be created on the studying the perception of various car brands on fuel efficiency and cost. Users are interviewed on various questions for cars A, B, C, D, E and F.

(obtained from a consumer survey)place product offering in the map

7 up product offering is perceived as having a moderate level of sugar and being relatively low in caffeine.

- BIO MIMICRY: It is an innovation method that seeks sustainable solution by emulating nature's time –tested pattern and strategies, eg: a solar cell inspired by a leaf . The goal is to create product, processes and policies- new ways of living –that are well adapted to life on earth over the long haul.

Bio mimicry is an innovation technique for finding sustainable solution by using strategies that have been tested over time by nature itself. It consists of observing the characteristics of particular living organisms and learning from them in order to reproduce schematics that can be applied to various fields.

- ETHNOGRAPHY: Traditional ethnography is the art and science of describing a group or culture .it is a form of culture anthropology that uses field work to observe the group and derive patterns of behavior , beliefs, and activities.

The new form of ethnography used in product development is a blend of the traditional methods with new emerging technology for observing ,recording and analyzing social situation

ELEMENTS OF ETHNOGRAPHY:

Observation

Interview

Visual stories

-

- **<u>BLUE OCEAN STRATEGY:</u>** This is the name given to a technique for exploring innovation .it takes its name from the derived word of a sea
- Blue ocean strategy model encourages innovation and influences the focus of strategy development . Instead of using competitors as a benchmark, managers look beyond the limits of existing market boundaries to seek new opportunities to create new value for customers. Rather than trying to beat the competition directly ,managers should action to develop a business offering that opens up and capture new market space.

- Organizational guidelines for innovation

Following guidelines should be followed for successful organisational innovation:

1. Innovation and the company board: The company should keep in mind the following points:

- Review environmental factor and forecast market need that are likely to prevail when new product are expected to be ready for sale
- Consider all company products and classify them into their business sector prospects and associated competitive attributes: it is convenient to construct a matrix
- Decide on possible new market segments and export territories for growth, and list the actions needed to gain business from main competitors .
- Classify activities according to whether they are service projects or projects with a high or low probability of success , draw up budgets for each class and monitor capital and revenue and expenditure.

- 2 INNOVATION AND COMPANY DIRECTORS:
- Company directors should keep in mind the following points:
- Draw up a list of design and development modifications for products whose market share needs increasing.
- Determine areas in which innovative changes in manufacturing processes and production engineering will lower product cost and improve performance.
- Investigate selling distribution and pricing policies, and seek ideas for a higher growth and larger market share
- Obtain innovation ideas for new products to meet unsatisfied market needs and ideas likely to create a need

- 3.INNOVATION AND THE COMPANY ENVIRONMENT :

For maintaining harmony between the innovation initiative and the company ‘s environment the following points should keep in mind

- Arrange for the innovation plan to be sponsored by a board member who will be seen to have influence and enthusiasm.
- Maintain the fewest number of management levels , remembering that an innovating organization needs an organic rather than a hierarchical structure.
- Evaluate staff abilities and contrive to make use of their full potential, and provide opportunities for continual growth.
- In designing the organization and planning the layout of office and laboratories . Need to paid to those factors which control the flow of necessary information.

- 4 ORGANISING RESEARCH, DESIGN AND DEVELOPMENT FOR INNOVATION:

while organizing for research, design and development the following point should keep in mind

- Secure the commercial exploitation of the output from research ,design and development activities by forming a team to deal with each group related product these team should be made accountable for the development of new product s
- Set-up a product process department responsibilities for prototype production ,and a plant design department to provide a manufacturing plant capable of meeting product specification and target cost

MODULE-3
Marketing innovation product

- MEANING AND DEFINITION OF PRODUCT:

Product is anything that can be offered to a market that might satisfy a want or need. A product means an object which satisfies the need of the customer

There are two concepts of the product: narrow concept and wide concept

Narrow concept , a product is a bundle of physical or chemical properties which has some utility.

Wider concept , all the brands ,all the colours all the packaging or all the designs of a product is taken to be different products.

For examples: if a toothpaste is produced in three different sizes , these are three products because they satisfy needs of different customers.

- Definition:

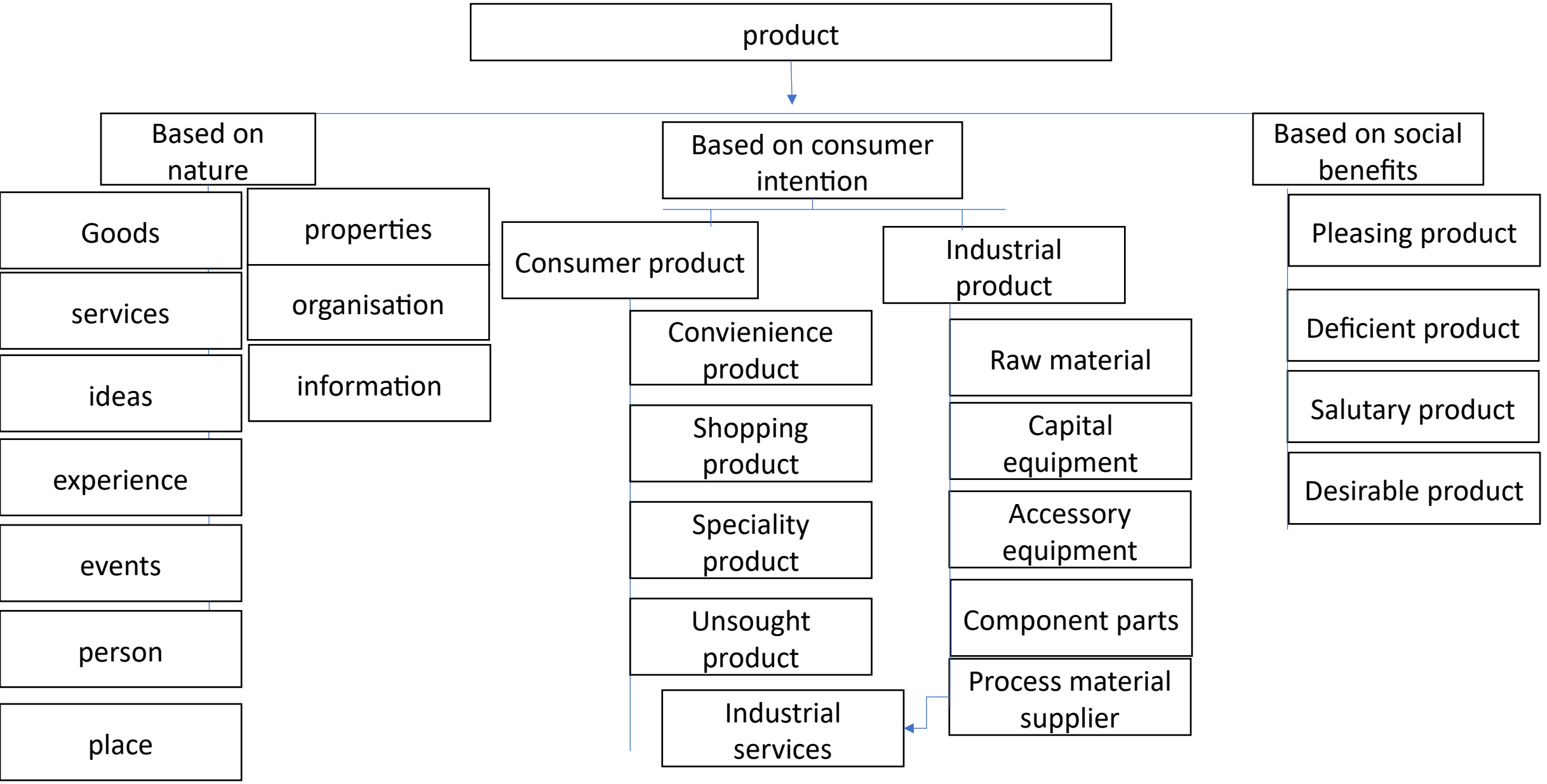
According to George fisk, “ product is a cluster of psychological satisfaction”

According to W . Alderson, “ a product is a bundle of utilities consisting of various features and accompanying services”

CHARACTERISTICS OF PRODUCT:

- Tangibility : it should be perceptible by the touch.an item to be called a product should have a tangibility character
- Intangibility: the product may be intangibility, in the form of services , for instance , banking insurance, repairing etc.
- Associate attributes : such attribute may be brand ,package, warranty
- Exchange value: whether the product is tangible or intangible, it should have exchange value and must be capable of being exchanged between seller and buyer for mutually agreed price
- Consumer satisfaction : product should have the ability to offer value satisfaction to the consumer.

- **CLASSIFICATION OF PRODUCT:**



1. **BASED ON NATURE:**

- Goods: physical goods are the tangible and physical materials.it has the quality of possession and ownership
- Services: these are intangible performance where consumption and production point is the same.
- Ideas: every market offering includes the basic idea at its core eg: ad agency
- Experiences: one can create stage and market eg: water world
- Events: marketers promote time-based events eg: movie award
- Persons: celebrity marketing has become a major business eg: cricketers
- Places : places can be marked to attracted tourists industries
- Properties: intangible rights of ownership eg; bonds and stocks
- Organisation : actively work to build a strong favourable images or tag line
- Information : information can be produced and marked as product eg dictionaries

- **2. BASED ON CUSTOMER TYPES:**
- Consumer products: are those brought by final consumers for personal consumption marketers usually classify these goods further based on how consumer go about buying them.
- conveniences products: are those goods which a customer purchases frequently and wants immediately and within a minimum of efforts eg: newspaper , drugs
- shopping product: These goods are bought by the customer only after comparing quality, price, suitability and style.
- speciality product: these product are consumable product which can only be purchased from specialist retailer and which consumer select deliberately eg: medicines
- unsought product: are those which potential buyers do not know that they exist or do not want to purchase. eg: insurance , lawyer services, or any ailment procedure

- 3. **INDUSTRAIL GOODS:** A product bought for use in the production or in an Organisational operation is an industrial product .

➢raw material : a raw material is a basic good that actually becomes part of a physical product. materials and parts are directly used in the final product by the firm.

➢capital equipment : also known as installation refers to the large tools and machines used in a production process and operation of the firm.

➢components parts: is a finished items or an items needs little processing before becoming a part of physical product

➢process materials : a material is used directly in the production of another product eg; alcohol used in makeup or perfumes

➢supplies: supplies are short-lived ,low –priced every day necessity items that aids and expide the firm's operations. eg; stationery , paints etc

➢industrial services : is an intangible product that many organisation require in their operation. eg: financial ,legal , marketing services.

- **BASED ON SOCIAL BENEFITS:**
- from the social aspects, we can differentiate the product on long –term and short-term advantages or immediate satisfaction.
- Pleasing product : these give high immediate satisfaction ,but do harm to consumers in the long run eg pan masala , cigarettes, alcohols etc
- Deficient product: these have neither immediate appeal nor long run benefits. firms are not interested in such product as there is no chance to make any profit at all eg: type writer, or pager
- salutary product: they have long run advantage but have no immediate appeal to consumers. firms are not primarily interested in such product. but they can be taken as a challenge and they can be made initially attractive without loosing consumer benefits.
- Desirable product: these have a happy combination of high immediate satisfaction and high long run consumer welfare ,tasty , nutritious , ready made food etc

- Marketing Mix is a set of marketing tool or tactics, used to promote a product or services in the market and sell it. It is about positioning a product and deciding it to sell in the right place, at the right price and right time. The product will then be sold, according to marketing and promotional strategy. The components of the marketing mix consist of 4Ps Product, Price, Place, and Promotion

PRODUCT MIX:

A product is a commodity, produced or built to satisfy the need of an individual or a group. The product can be intangible or tangible as it can be in the form of services or goods. It is important to do extensive research before developing a product as it has a fluctuating life cycle, from the growth phase to the maturity phase to the sales decline phase.

- **DEFINITION:**

According to America marketing Association:, “Product mix is the composite of products offered for sale by a firm or a business unit”

A company’s product mix has certain WIDTH , LENGTH, DEPTH, and CONISTENCY

1. PRODUCT MIX WIDTH : It refers to how much different product lines the company carries papers, house hold cleaning, medicinal and cosmetics.

eg :Hindustan Unilever limited has several product line such as shampoo bath soap ,tooth paste, detergent powder , cleaning powder , tea/coffee (different product in different fields)

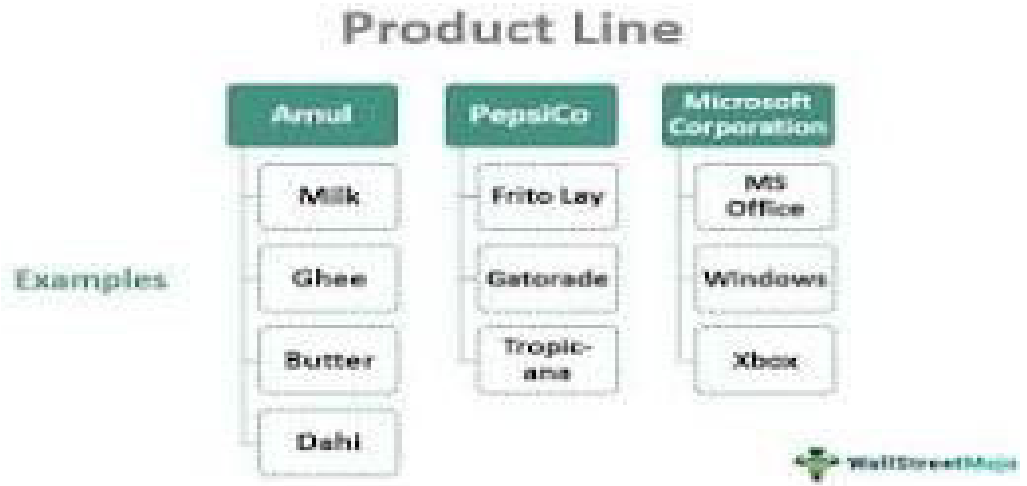
- 2.PRODUCT MIX LENGTH: refers to how to the total number of items in the mix typically carries many brands with in product line(clinic plus , lux ,pepsodent , active wheel , lipton green label

- 3. PRODUCT MIX DEPTH : refers to how many variant are offered of each product in the line (number of version offered of each product in the line(similar product with different style)

- 4. PRODUCT MIX CONSISTENCY : Refers to how closely relate the various product lines are in end use, production requirement, distribution channels or some other way

- PRODUCT LINE

A product line is a group of related products all marketed under a single brand name that is sold by the same company. Companies sell multiple product lines under their various brand names, seeking to distinguish them from each other for better usability for consumers.



- Marketers must be aware of competition at all the times in order to advice manufacturers on new products that should be added to an existing product line. In addition , a marketing agency should be aware of those product s that sell , and those that remain unpopular . Through the collection of statistical data, marketers can effectively determine what products should be kept within a product line, and what products should be phased out . Pricing is used to create a large barriers between different products, and higher – priced products are usually justified based upon certain ingredients.

- Different forms of product line: In developing product line strategies , marketers face number of the following tough decision on product line length and product line featuring

1. Product line length decisions : A product line is too short if profits can be increased by dropping items. Company objectives influence product line length.
2. Product line stretching decisions: Companies usually add new products into their current and existing product line. It helps them to update their product according to the needs of customers and remain competitive in the market. It's a very important decision for them that whether or they should stretch their product line or not. every company's product line covers a certain pair of the total range offered by the industry as whole . For eg: Maruti udyog automobiles are located in the low –medium price range of the automobile market . Line stretching occurs when a company lengthens its product line beyond its current range. The company can stretch its line in following ways:

DOWN WARD STRETCH

UPWARD STRETCH

TWO –WAY STRETCH

- Downward stretch: Many companies initially locate at the high end of the market and subsequently stretch their line downwards .The low-end items might provoke competitors to counter act by moving into the higher end . The company's dealers may not be willing or able to handle the lower –end products, because they are less profitable or dilute their image.
- For eg: TATA who are the producers of medium and high price /big car segment, now have stretched downwards by entering into small car segment by releasing TATA Indica. And a Japanese companies spotted a major opening and moved in quickly .it is interesting that after seeing the success of Suzuki in small car segment ,the other leading companies such as honda and Toyota are new entering into the market.

Eg:

The smartphones of **Samsung** in Note and Edge are premium level product and they’re very costly or premium price range. The brand also offers smartphones of A-Series that are for the lower-level market. The consumption rate of the lower-level model is very high. Samsung does a lot of marketing and downward product line stretching because the brand doesn’t want to lose it.

- **Upward stretch:**

Companies in the lower end of the market might contemplate entering the higher end .they may be attracted by a higher growth rate, higher margins or simply the chance to position themselves as full-line manufacturers . An upward decision can be risky .not only the higher –end competitor well entrenched but they may counter attack by entering the lower end of the market. The company's sales representatives and distributors may lack the talent and training to serve the higher end of the market.

Eg: Maruti who initially entered in the small car segment and entered higher end by production of Maruti 1000 and Maruti esteem .

When **Starbucks** entered into the coffee business, there were many brands selling coffee at the medium and lower level price range. Starbucks started offering premium coffee at a premium price range to target the rich market.

- The examples of upward product line stretching in the automobile industry are Honda, Toyota, Lamborghini, Bentley, Acura, and Volkswagen. These brands followed the upward stretching decision and offered premium products.

- **Two-way stretch:**
- A two-way stretching occurs when a brand targets both lower and premium level markets at the same time. The goal of two-way product line stretching is to cover and target the majority of the market. If a brand offers a medium-level product, and it considers that the market requires lower and premium level product stretching, then it has the option to offer two-way stretching.
- Many brands follow the two-way stretching decision and offer all types of products to increase market share and profitability.

- ***Examples***
- HUL offers many premium products under premium brand names like beauty soap (Dove) and ice cream (Magnum). The brand also offers lower level products.

- Volkswagen also offers different categories of products to target different types of the audience under different brand names. Like Audi, Beetle, and many other brands target the middle and premium level market. Polo and other brands target the mass-customers.

- 3. **product line filling decision:** A product line can also be lengthened adding more items within the present range of the line. There are several motives for the line filling such as reaching for incremental profits trying to satisfy dealers to complain about lost sales because of missing items in the line: trying to utilize excess capacity trying to be leading full-line company and trying to keep on competitors. If line filling is overdone it may result in customer confusion.
- **4. Product line modernization decision :** it refers to change in product with technology and or change in looks /style of product. it is a strategy in which items in product line are modified to suit modern styling and tastes and then re-launched. Product line needs to be modernized. In line modernization , new product are launched and old are discontinued. Companies plan improvements to encourages customer migration to higher –valued ,higher-priced items.
- **Eg:** intel continuously changes PC chips, Maruti changed the style of 800cc car, and Hero Handa changed splendor to splendor plus.

- 5. **Product line featuring decisions:** it is used to boost demand for slower selling products. Product line manager may select one/few items in the line to feature

By a premium marketer with a low price but quality product. For eg: Mercedez Benz economy at Rs 18lac.

- 6. **Product line pruning decisions:** This refers to reducing the product line length by identifying the week products i.e unprofitable products in the line and deleting those to improve the overall profitability of the firm.

A firm may choose to do so when it finds that a particular model is not popular or is unprofitable or does not yield desired profits.

- **Market evaluation for product decisions:**

In the market evaluation , the various products are compared their market attractiveness and their relative market share. The goal of market evaluation is to determine the attractiveness of a market and to understand its evolving opportunities and threats as they relate to the strengths and weaknesses of the firm.

1.Product life cycle: The stages of the product in the lifecycle curve and the duration of life cycle is helpful market evaluation . It describe market response (in term of sales or revenues) to a product over the products commercial life.

2.Market size: The size of the market can be evaluated based on present sales and on potential sales if the use of the product were expanded.

Government data

Trade association

Financial data from major players

Customer surveys

- **3. Market growth rate**:

A simple means of forecasting the market growth rete is to

Extrapolate historical data into the future. The maturity and decline stages of the product life cycle will be reached . Some leading indicators of the decline phase include price pressure caused by competition , a decrease in brand loyalty the emergence of substitute products , market saturation , and the lack of growth drivers.

- **4. Market Profitability:**

While different firms in a market will have different levels of profitability the average profit potential for a market can be used as a guideline for knowing how difficult it is to make money in the market. Five factors that influence the market profitability

1. Buyer power 2. supplier power 3. barriers to entry 4. threat of substitute product 5. rivalry among firms in the industry

- 5. **Industry cost structure:**

The cost structure is identifying key factors for success . The cost structure is helpful for formulating strategies to develop a competitive advantage.

For example, in some environments the experience curve effect can be used to develop a cost advantage over competitors.

6. **Distribution channels:**

The following aspects of the distribution system are useful in a market analysis

i) Existing distribution channels : describe by how direct they are to the customer.

ii) Trend and emerging channels: new channels can offer the opportunity to delvelop a competitive advantage.

iii) Channel power structure: product having little brand equity ,retailers have negotiating power over manufacturers and capture more margin.

7. Market trends: changes in in the market are important because they often are the sources of new opportunities and threats. Changes in price ,demand for variety, and level of emphasis on service and support.

- **PRODUCT INNOVATION:**

Concentrates on improving the strategic position and product-delivery capabilities of the organisation through creativity and leadership .product innovation includes several essential aspects:

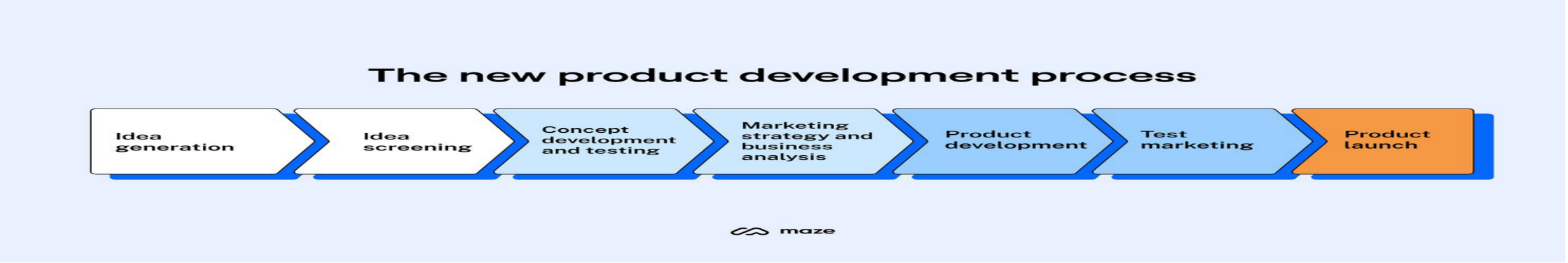
1. examining the needs for products, processes and services.
2. Determining the proper direction and fit for new products.
3. Creating the new product and executing the new- product development programmes (NPD)

- **Strategic consideration on innovation in product:**

Successful product innovation result in products that can be produced and sold profitability .the following efforts are :

1. Product quality: it must satisfy customer needs and its reliable. Product quality is ultimately reflected in market share and the price that customers are willing to pay
2. Product cost: its determines how much profits accrues to the firm for a particular sales volume and a particular sales price.
3. Development time: How quickly did the team complete the product development efforts?
4. Development cost: This cost is usually a significant fraction of the investment required to achieve the profits.
5. Development Capability: The team and the firm better able to develop future products as a result of their experience with a product development. Development capability is an asset the firm can use to develop products more effectively and economically in the future.

- New product Development:
- New Product Development refers to the *complete* process of bringing a new product to market. This can apply to developing an entirely new product, improving an existing one to keep it attractive and competitive, or introducing an old product to a new market.
- The emergence of new product development can be attributed to the needs of companies to maintain a competitive advantage in the market by introducing new products or innovating existing ones. While regular product development refers to building a product that already has a proof of concept, new product development focuses on developing an entirely new idea—from idea generation to development to launch.



- Various stages of new Product development: (10 marks)

1. Idea Generation: The new product development process starts with search for ideas. The search should not be casual.

New products ideas come from many sources: customers, scientists, competitors , Employees, channel members and top management . Customers needs and wants are the logical place to start in the search for new product ideas.

2. Ideas screening: The purpose of screening is to drop poor ideas as early as possible. The rational is the product development costs rise substantially with each successive development stage.

When product reach later stages, management feels that they have invested so much in developing the product that it should be launched to recoup some of the investment.

- 3. Concept development and testing:

Attractive ideas must be refined into testable product concepts. Consumers do not buy product ideas, they buy product concepts.

Concept testing calls for testing these competing concepts with an appropriate group of target customers. The consumers are presented with an elaborated version of each concept and are asked certain questions about the concept.

The respondents answer are summarized to judge whether the concept has a broad and strong consumer appeal.

4. Market strategy development:

The new product manager must now develop a marketing strategy plan for introducing this product into the market .

The marketing plan consists of structure , and behavior of the target market, the planned product positioning

The products planned price , distribution strategy the long run sales and profit goals and marketing mix strategy over time.

- 5. Business Analysis :

Now it can evaluate the business proposal's attractiveness. Management needs to prepare the sales, cost and profit projection to determine whether they satisfy the company's objectives.

6. Product development: if the product passes the business tests, it moves to R&D and or engineering to be developed into a physical product.

This stage will answer whether the product idea can be translate into technically and commercially feasible product . The R&D department will develop one or more physical versions of the product concept.

7. Marketing Testing: Now the product is ready to be dressed up with a brand name, packaging and a preliminary marketing programme to test it more authentic consumer settings.

8. Product launch: Market testing presumably gives management enough information to decide about the launching of the new product.

In commercializing a new product market entry timing can be critical. The company must decide whether to launch the new product in a single locality, a region ,several regions, the national market or the international market.

- Innovation platform (5marks)

An innovation platform is a space for learning and change.it is a group of individuals (who often represent organizations) with different background and interests: farmers, traders, food processors, researchers, government officials etc. the members come together to diagnose problems, identify opportunities and find ways to achieve their goals. They may design and implement activities as a platform , or coordinate activities by individual members.

the innovation platform will help:

a) Stream new ideas that can help you in developing new product and services
b) incorporate stake holder's to make them feel involved in the decision making process. They will know for sure that the company wants to hear their ideas.
c) Promotes a sense of shared involvement for all stakeholders
d) Narrow the gap between company and markets needs.
e) Evaluate ideas quality through stakeholders interactions , voting ,rating, and review
f) Organize idea better- prioritize and track stakeholders ideas.

- Multiple product option or short note on multiple product option (5marks)

New product perform different roles at different times for different companies

These categories are defined by the type of market the product is entering and the level of product innovation

1. New product platforms:

This project involves a major development efforts to create a new family of products based on a new , common platform . From R&D prospective this would be seen as developing a new core technology. The new platform would be used to help existing products compete. An example of this would be kodak's move into digital platform.

2. Derivatives of existing platforms:

projects of this type develop an existing platform usually to ensure existing products are updated . This will either provide them with an advantage over the competition or make sure they can compete with the competition.(eg: different models)

Honda have been extremely successful in utilizing their product platform of small petrol engines and applying this technology to wide variety of market application from lawn mowers to motorcycles and from outboard motors for boats to chainsaws.

- 3. Incremental improvement to existing products:

These projects may only involve adding or modifying features of existing products to keep the product line current and competitive . frequently this may be improving the packaging or reducing the manufacturing cost of producing the product or changing the design slightly .while such changes may seem small they can often have significant impact on sales. The change from see-through cellphone to foil packaging by Walkers' made a huge impact on sale.

4. Fundamentally new products :

These projects involve radically different product or production technologies and may help to take the firm into new and unfamiliar marketers . such projects are inherently more risky but may help to secure the long-term future of the future of the firm.

- Product Portfolio:

New-product portfolio management as the on-going decision process, where the mix of a business's active new product projects is constantly reviewed and revised . In review process, new projects are evaluated ,selected and prioritized: existing projects are accelerated ,killed or deprioritized: and resources are allocated and reallocated to active projects.

- product portfolio Analysis Tools

There are number of techniques that could be considered as product portfolio analysis techniques. They require considerable research , calculation, and analysis if they are to be a useful management tool.

The Boston consulting group matrix(BCG matrix) considers the growth of the market and the size of the product 's share of the market relative to the market leaders 's share.

- The GE-MC Kinsey matrix uses market attractiveness and competitive position. A number of tools are available to help organisation to analyse and manage their product portfolios, and to make informed decisions about future marketing strategy.
- Some of these are as follows:

1. BCG matrix: shows the relationship between cash generating and cash eaters. Matrix formed by two axes –market growth rate and relative market share

matrix is a simple tool to assess a company's position in terms of its product range. It helps a company think about its products and services and make decision about which it should keep, which it should let go and which it should invest in further.

Graphic representation for an organisation to examine the different product in its portfolio:

According to this matrix , business could be classified as high or low according to their industry/ market growth and relative market share.

The four cells of the BCG matrix have been termed as stars, cash cow, question mark , dog are described below

2. Star: products in rapidly growing markets in which the company has a high relative market share called stars.

Star generate large sum of cash because of their strong relative market share, but also consumes large amount of cash but are also expensive to support

- 1. Question Marks

Q.M are grow rapidly as a result consume large amount of cash ,but they have low market share they don’t generate much cash. The result in large net cash consumption .

- question marks are also called problem children or wild cats.
- A question marks has the potential to gain market share and become a star, and eventually a cash cow when the market growth slows.
- If it doesn’t become a market leader it will become a dog when market growth declines.
- Question marks need to be analyses carefully to determine if they are worth the investment required to grow market share.

- They are good investment as they have high earning potential both at present and future.
- Stars therefore often require high promotional expenditure and perhaps additional product development in order to keep their competitive edge.
- If this is managed successfully ,then when market growth rate slow down , these star will become cash cows

3. Cash cow: products in slow growth or even stastic ,markets in which relatively high market share are called cash cows . As leaders in a mature market, cash cows exhibit a return on assets that is greater than the market growth rate so they generate more cash than consume.

- 4. Dog: Dogs have a low market share and a low growth rate and neither generates nor consumes a large amount of cash.
- However, dogs are cash traps because of money tied up in products that have little potential.
- Such products are candidates for divestiture(sellout or kill)
- When a dog gets old it may be kindest to put it to sleep but , from a company's perspective, there may be sound reasons to keep it alive.
- It might be an effective loss leader or barrier to make entry by competitors.

. One company's dog can become another 's cash sow or even a star if they are operating in different markets

- GE9 Cell Matrix: In order to overcome the weakness of BCG portfolio matrix GE electric company has developed a nine-cell grid with the help of Mckinsey USA a leading consultancy firm. This is another classic portfolio analysis tool which is also known as the market attractiveness , market share matrix.
- This nine –box matrix is a systematics approach to determining ,which product or SBU(strategic Business unit) are the best ones for investment . Rather than rely on managers fore cast , the company judges how well a product may be di in the future.

- Explain the systematic and analytical methods and techniques of innovation management?(10marks)
- The systematic and analytical methods and techniques of innovation management:
- 1. Product and service design techniques : product and service design techniques maximize opportunities for success by transforming an idea into a successful product or service
- A). The design to cost method: enables projects to be managed while respecting pre-establishing cost and time constraints.it also allows the optimization of a product's competitiveness by achieving a maximum technical performance without waste or overuse of technology.
- B).The quality function deployment : method enables the client's needs to be met in the best possible way .it allows for the most efficient production process to develop in accordance with established quality requirement.

- C). The Delphi Method : The Delphi method is a process used to arrive at a group opinion or decision by surveying a panel of experts. Experts respond to several rounds of questionnaires, and the responses are aggregated and shared with the group after each round.
- D). Benchmarking : is a tool comparing different management techniques and the organisation of other companies. Thus one can choose the best process and gain some insight in order to adapt it to the needs of one's own company.
- 2. Problems solving techniques: how to solve a problem or rectify an errors. Problem solving techniques permit solving problems through a structured approach so as to implement and sustainable solution
- A) Failure mode, effects, and criticality analysis(fmeca): is a structured method fo anticipating , detecting and assessing failures.it helps introduce adapted and sustainable solution.

- B) Triz (theory of inventive problem solving) provides a new approach to solving all types of problems , particularly those of a technical nature.
- 3.strategic Management tools:how to achieve a good sales turnover for innovative products or services. Innovation is only successful if it results in a product or service, which sell well
- A) porter’s 5 forces model is a technique used for analyzing a company’s business environment and industrial context based on the 5 main aspects shaping a sector: competitors, new entrants, substitute product , customers and suppliers
- B) The BCG Matrix is a simple tool to assess a company’s position in terms of its products range .it helps a company think about its products and services and make decisions about which it should keep , which it should let go and which it should invest in further.

- C) The SWOT matrix :A SWOT matrix is a tool that allows businesses or individuals to identify their strengths, weaknesses, opportunities and threats. SWOT matrices help organizations complete an honest assessment of a business to understand its competitive advantages and determine where it can improve.
- D) The 4P’s of the marketing Mix: Analyses 4 aspects on which a company can focus in order to achieve the best possible products positioning in market . These aspects are product , Price, Place and Promotion.
- E) The product life cycle Analysis: enables the stage of a company’s product or service to be determine . This facilitates making correct decisions on company strategic development and its product or service portfolio.
- F) Maslow’s Pyramid: identifies and ranks an individuals needs ,desires and motivations. It is a basis for reflection , permitting the positioning of people and products.


END

CENTER FOR
EVALUATION
INNOVATION

INTRODUCTION:

Evaluation process determine which project will be pursued and which will be killed or shelved.

- Performance of the portfolio is determined as much by evaluation outcomes leading to the cancellation of poor performance of the portfolio is determined as much by evaluation outcomes leading to the cancellation of poor performance early in the project life cycle as by evaluation leading to persistence.
- Integrating evaluation from the beginning of the innovation project will help guide the process and create a solid foundation for making decisions on what initiatives to proceed with and what to stop.
- ✓ Knowledge from the evaluation will strengthen the communication about the value of the innovation to decision makers, colleagues, partners and citizens.
- ✓ Evaluation enables spreading innovation, since others easily can gain knowledge on the created value and the innovation process.

- NEED FOR EVALUATION OF INNOVATION: (5marks)

Organisational innovation is not just about generating creativity business ideas.

It also bout reviewing ideas in order to identify those which are most likely to become successful innovations.

Unfortunately ,many organisation makes mistakes in their idea review processes that result in rejecting the most potentially innovative ideas in favor of less innovative ones.

✓Identification of most innovative idea for the company:

Identify the ideas that are most likely to succeed as innovation for the company . Many good ideas never even come to the attention of management. Evaluation solves this problem by recognizing those ideas, whisc is best for organisation

✓ Ensure review of complex ideas by appropriate authority:

evaluation is a crucial complex ideas can be reviewed by the people having appropriate expertise necessary to understand “what would be required to implement the idea and what might go wrong .

✓ Support the middle management in sharing the new idea:

evaluation enables a middle manager to defend the idea before the senior management stakeholders, and financial officers who may need to grant budgetary approval of the ideas. Budgetary approval can only be granted by the leadership team, financial officers only if they are confident about the idea and convinced about the benefits.

✓ Multiple idea can be reviewed:

Evaluation makes it possible to review a large number of ideas in aresources efficient manner.

There may be large number of ideas that are suggested, but it is not feasible to apply all the ideas at the same time , it must evaluate which ideas most effective and can be implemented.

✓Helps to improve the idea:

Evaluation is useful for improving the idea by identifying potential implementation problems and preparing suitable action to overcome those problems.

✓ Value for money:

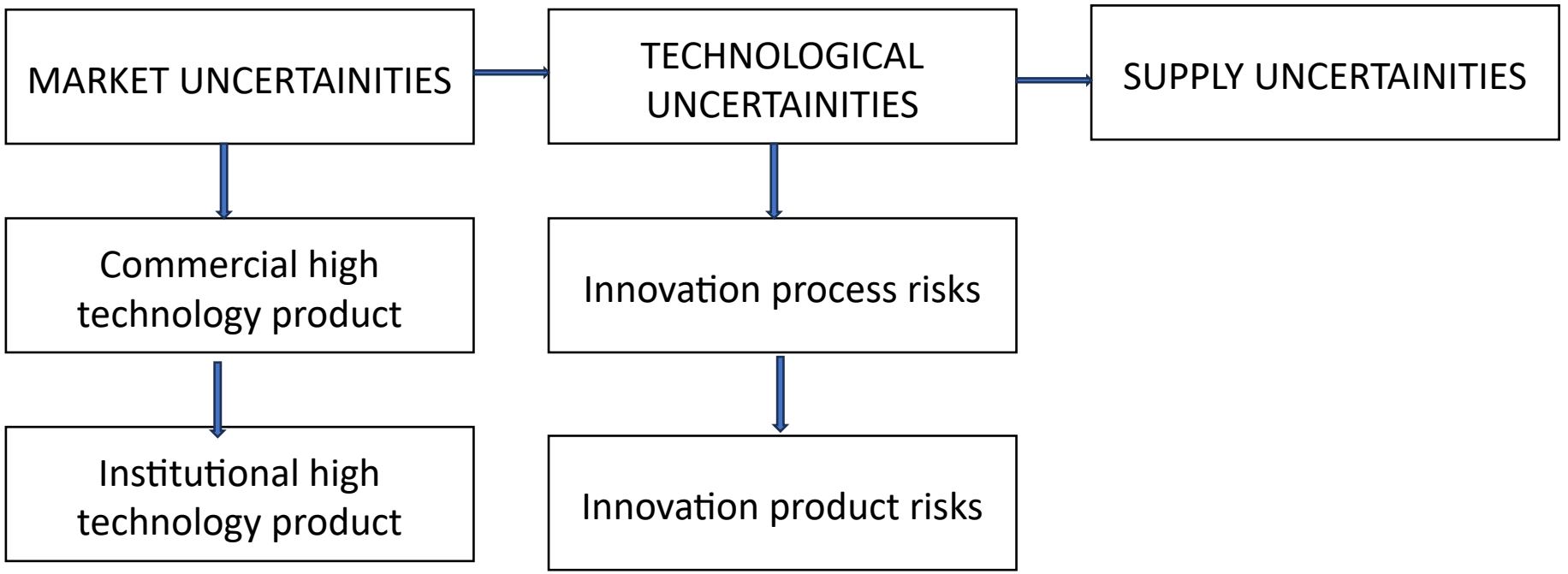
The value for money has a strong focus on expenditure, how they are managed, how they related to out come .

Evidence of value for money is important if a case is to be built for future ideas of this kind.

- Enumerate the risk associated with innovation(10 marks)

Innovation changes occur unevenly from place to place and industry to industry, there is also uncertainty about the present –what is going on elsewhere , much of which is un observed and some of it unobservable without one's being there".

The uncertainties are associated with innovation can be classified into three categories :



- Market uncertainties:

The launching of new product involves risk that , however well the market has been researched, customers may

reject it. The ideas of new products which survive to gain significant market share is quite small. Even it is well

established, there is always possibility that change in needs, attitudes, taste and fashion may render it

obsolete. Market uncertainities are particularly in high technology product.

Basically high technology product are of two types :

1. Commercial high technology product : these are the product designated for commercial use , they provide higher returns than institutional products, but carry greater risk .such as Ms word software, PCs, biotechnology products.

Market un certainty can be reduced through preliminary market research and by reducing the lead time for development.

Institutional high technology product: these are products designated for a specific single customer or small groups of

customers, e g . Machines , communication systems ,traffic control system etc

Reducing market uncertainities by maintain stability of market

Conduct a solid needs analysis

Avoid depending on single large project have no more than 10%of R&D resources

- TECHNOLOGICAL UNCERTAINITIES:

An innovative product has always new features –new concepts and ideas, incorporation of new components and materials, and application of new technological processes. innovators do not know in advance whether the technology will work and they do not know whether sufficient number of customers will adopt it.

Innovator also do not know whether some one else will come up with a superior technology serving the same functionality.

1. Innovative process risks : the risks associated with quality controls and guarantee's, and problems with supplier
2. Innovation product risk: risk to the production of innovative ideas and products eg; risk associated with customer complaints, environmental regulations etc

It is advisable to have a balanced portfolio that includes increamental innovation to leverages existing product patform.

- 3. Supply uncertainties: innovative product usually has many innovative components. The presence of which implies certain supply risk . The traditional way of overcoming the time problem is to institute some sort of just in time protocol.
- But JIT is difficult to implement in an innovation project since innovators do not know in advance what exactly they need and at what time .

- Factors influencing economic effectiveness of innovation.
- 1 industry maturity: mature industries companies pay more attention to business process innovation than to product innovation .the main innovation model development level help managers to understand what types of innovations and strategies they should consider in different periods of their development and different competitive surrounding

a market matures and customer needs become defined in a better way . Companies transfer the focus of their competition to expenses and economy of range , investing more in business processes in order to make them effective and more efficient.

- 2. customer needs and expectation :

Customer needs and expectations are essentials for process innovation that improve process effectiveness . the companies oriented to customers are responsive to final customer needs, measure their satisfaction level improve the processes in order to satisfy customers.

3. Attractiveness for investment :

The capability of controlling and benefiting from innovations plays an important role for investment into innovation .only if a company does expect to benefit from innovations, it will have an intention to innovate.

4. Technological opportunity:

Innovations are closely related to a scientific base and scientific knowledge growth. A strong scientific base focuses innovational activities in the most productive direction

- 5. company size:

Returns on process innovation grow proportionally with company size while returns on product innovation remain constant . accordingly ,as a company grow ,it decides on business process innovations. In the case of product innovation, considering only a company size ,it cannot be predicted whether smaller or bigger companies will be more innovative.

.6. Demand: demand undoubtedly affects innovation activities . Benefits that innovations bring are proportional to the market size. Companies can rather decide to take up innovations if they assess that selling potential is high enough.(selling potential, demand growth,

7. Customer needs and expectations:

The companies oriented to customers are responsive to final customer needs , measure their satisfaction level and improve the processes in order to satisfy customer.

- Intellectual Property of innovation: (write a short notes on intellectual property right)(5marks)
- Innovation means doing something new that improves a product, process or service. Many innovations can be protected through intellectual property (IP) rights.
- Intellectual property(IP) is the creation of human intellect. It refers to the ideas , knowledge, innovation , creativity ,research etc . all being the product of human mind. It is similar to any proprietor or the owner may exclusively use his property at will and has the right to prevent others from using it, without his permission.
- The right relating to intellectual property are known as intellectual property rights'. It provides exclusive rights to the inventor or creator. It encourages more and more people to invest time, efforts and money in such innovations and creations. These are customarily divided into two main areas:

- 1. copy right and right related to copy right:
- The rights of authors of literary and artistic work (such as book and other writings, musical compositions, paintings , sculpture , computer programs and films) are protected by copy right. Also protection is granted to related or neighboring rights like the right of performers(e.g actors, singers, musicians, sound recording and broad casting
- 2. Industrial property:

it is divided into two main areas

a) Protection of distinctive signs,in particular trade marks and geographical indications.

b) it includes inventions (protected by patents) industrial designs and trade secrets.

- The issue of Ip right was brought to an international platform of negotiation by world trade organisation(WTO) through its agreement on ‘Trade Related Aspects of Intellectual Property Right’(TRIPS). This agreement narrowed down the differences existing in the extent of protection and enforcement of the intellectual property rights (IPRs) around the world by bringing them under a common minimum internationally agreed trade standards
- The member countries are required to abide by these standards within stipulated time-frame. India, being a signatory of TRIPS has evolved an elaborate administrative and legislative framework for protection of its IP

- Important of intellectual property rights

1. Providing guarantees regarding the quality and safety of product:

Many counterfeit product place our children's and citizens safety or health at risk, for instance where vehicle spare parts or drugs are concerned. Enforcing IP rights respect of such product guarantees at least that the products origin is known and that the products are genuine.

2. Enabling indirect Exploitation: where a company has protected its products by IP rights, it can derive revenues not only from their direct exploitation(by the company) but also from their indirect exploitation by third parties,under licensing contracts.

3. Cost-free Mechanisms: while certain procedure required for the registration of IP right are considered to be expensive , in particular SMEs, it should be noted that certain IP rights can be enjoyed without any formal procedure and without paying any official fees.

- 4. Facilitating technology transfer:

Patents often constitute a convenient means to not only protect but also describe in a very accurate way of technologies which are the subject of technology transfer and similar agreement (licensing , assignment ,etc.)

This " technology packaging"/ trade facilitation function justify that patents have some times been considered as the " currency' of the knowledge- base economy.

5.Enhance Profitability: any industry or business , whether traditional or modern regardless of what product or service it produces or provide, is likely to regularly used IP to prevent others from encroaching on its due reward or taking advantage of its good will in the market place

6. To face competition : Understanding the importance of the various components of the IP system and using it effectively as an integral part of it s business strategy is crucial to success in the market place .Businessess need the IP systems to protect manufacturing secrets or other usefull information and remain ahead of the competition.

- TOOLS OF INTELLECTUAL PROPERTY TO PROTECT INNOVATIONS.

  Under the law ,an innovator has at his disposal four types of IP protection - patents, copyrights, trade secrets and trade marks. All provide specific rights to use material(right of publicity) and to exclude it from use (privacy or exclusion). These rights come with obligations, some of which can be expensive .

- The various tools of IPR that are used to protect innovations are:

  1. patents

- 2 copy right
- 3.trade mark
- 4.trade secrets

- TOOLS OF INTELLECTUAL PROPERTY TO PROTECT INNOVATIONS.

  1. PATENTS:

  A patents is a temporary legal right granted by the government as areward for a unique inventions, giving the inventor the right to exclude others from using invention.

- Importance of patents
- 1. A patents gives on the right to exclude others from making the product .
- 2.As a patent gives exclusivity, the patent holder has a time to market the invention without competition making him/her able to charge higher prices
- 3.it gives the right to initiate legal action against anyone that is making or selling without permission

- Explain the different types of patents(10marks)

  1.utility patents:

  The inventor inventing any unconventional object , device , composition or process can have utility patents

a) The patentee has to remit mandatory fees periodically for patents maintenance i.e. to enforce legal protection and safe guard its exclusively

b)Usually the inventor applies for the patent and exception are allowed in rare cases (insanity /death/ refusal to apply)

- 2. Design patents:

  The inventor inventing any new ornamental design of an article of manufacture can have design patent

  a. the patentee need not pay the maintenance fees,

- b. with design patent exterior of an invention is protected and any of its functional aspects.
- c. design can be granted a design patent, and also be protected by a trademark.

- 3.Plant Patent:

  The inventor inventing or discovering a new variety of plant .

- 4. Reissue Patent:

  it is issued to set right an error in an already issued patent; it however will not effect the period of protection offered by the original plant.

- 5.Defensive publication(DEF)

  It is issued instead of a regular patent to offer limited protection ,defensive in nature and prevent others from patenting an invention.

- Explain the procedure to get patents(10 marks)

  Step -1 Filling of patent application:

- a. Covering indicating the list of documents
- b. Application for grant of patent in form1
- c. complete specification in form2 in duplicate , it include description ,claims and abstract
- d. statement and undertaking in form 3
- Declaration of inventor ship in form5

- Step2 publication

  A patent application will be published automatically in the official journal after expiry of 18months from date of filing, containing title, abstract, application number and name of applicant it also include

- Pre grant opposition section 25(1) upon application but before grant of patent any person, may file a pre grant opposition case, the the controller against the grant of patent

- Post grant opposition : section 25(2) upon the grant of patent any person may file a case on opposition to grant a patent then the controller stopped grant patent

- 4.Request for examination :

  request to do inspection within a period of 48 months from the date of filling an application

- 5. First examination report:

  after examination of patent application on the criteria of novelty, inventiveness and industrial application , the patent examiner will issue a first examination report(FER)

- 6. Amendment of objections by the applicant:

  The issued FER give an opportunity to the applicant to file a responses and overcome the objections raised by the examiner.

- Step7 Grant of Patent:

  The controller will grant a application upon overcome all the objections raised in the FER. On the grant of the patent the application will be accorded a number called serial number under the Indian patents and design act1911

- How do you surrender of patent(5marks)

  The surrender of patent include the following :

- 1. The patentee may at any time offer to surrender his patent through an application , the controller publishes the offer letter in journal and also notifies every person whose name appears in the register.
- 2. within 3months from the date of publication of such offer in the official journal .
- The controller shall inform the patentee of such notice

- 3. accepts the patentees offer to surrender the patent , he may direct the patentee to return the patent and on the receipt of which ,the controller shall by order ,revoke it and publish such revocation in the official journal.

- TRADE MARKS:

  A trademark can be any word, phrase, symbol, design, or a combination of these things that identifies your goods or services. It's how customers recognize you in the marketplace and distinguish you from your competitors.

- The word "trademark" can refer to both trademarks and service marks. A trademark is used for goods, while a service mark is used for services.

- A trademark:

  TM is related to commercial symbols and concern to protect distinctive marks such as words/ signs. including personal names, letters, numerals, figurative elements (logos)etc

  Identifies the source of your goods or services.

  Provides legal protection for your brand.

  Helps you guard against counterfeiting and fraud.

- RESTRICTION AND PRINCIPLES WITH THE USE OF TRADE MARKS.
- 1. satisfy the requirement of section1(1)
- 2. be distinctive
- 3. not be deceptive
- 4. not cause confusion with previous trade marks

- Types of Trade marks

  basically 4types of trademarks:

- 1. Non-conventional Trade marks;

  non-conventional trade marks represent based on both visible and non-visible sign such as shapes,colour, moving images or holograms and non-visible such as textures, scents, sound or even tastes, the main difference is that these trademarks do not necessarily have contain words, symbols,logo,letters.

  2. motion Trade marks:

  these trade marks also known as moving marks, movement marks,animated marks, or moving image mark are very difficult to register

- 3. Service trade marks:

  These are marks used in service business where actual goods under the mark are non traded. Thus business providing services like computer hardware and software ,hotel services, beauty and healthcare,restaurants ,courier, etc

- 4. collective Marks:

  collective marks is used to inform the public about the particular feature of the product for which the collective marks is used. The collective marks is different from other trademarks

- 5. certification Marks:

  These marks are used to define standards. The issues of certification marks indicates that the product has gone through certain standard of test specified for a particular product . It ensures the consumer that the manufacturers have gone through regular process of audit to ensure the standard of production for eg: ISI mark. Aqmark ,etc

- 6. Well known Marks:

  marks which are deemed to be well-known, are defined . Such marks will enjoy greater Protection . Persons will not be able to register or use marks, which are imitations of well-known trade marks.

IMPORTANT OF TRADE MARKS:

- Recognition : brand recognition is the main reason for the importance of trade mark. Business needs customers to be able to select their product from among a crowded field of competing product ,especially once customers develop brand loyalty.
- Association : customer also can associate products with one another or with the business that produces them using trade marks . when a company produces one successful product , it may wish to use the same trade mark, or a similar trademark, to designate its next product. This allows customers to associate the new product with the old one, encouraging brand loyalty and making product seem more appealing by associating it with a product known to be superior.

- Investment: business invest large amounts of money in their trademarks. This includes the money it costs to search existing trademarks to ensure that the new one is unique ans not already in use. Business also must spend money hiring a designer and marketing professionals to produce one or more trademarks and work them into advertising and marketing efforts.
- Protection : The trademark and patent office allows business to search records and register their unique trademarks , which affords legal production against others using them without authorisation .

- Set company apart from competitors: if one owns a business, one should consider creating a trade mark for the products or services one offer. In today's competitive market place it is more important than ever to distinguish yourself from competitors. Creating an eye catching trademark is a great way to accomplish this trade marks
- Effecting marketing tools: Trade marks can become a very effective market tool. This is especially important for new business owners who wish to announce their presence in the market and establish themselves as a reputable company who wants to become a permanent fixture in the industry. Research reveals that consumers feel more confident purchasing from branded or trademarked goods than non-branded items.

- COPY RIGHTS:

  copyright is recognised by the symbol @ and gives legal rights to creator of certain kinds of materials , so that they can control the various ways in which their work may be exploited
- Copy right protection is automatic and there is no registration and formality.
- Copy rights may susists in any of nine description of work and these are group into 3 categories:
- 1.original literacy,dramatic, musical and artistic works
- 2. sound recording,films,broadcasts and cable programmes
- 3. the typographical arrangement or layout for published edition.

- Importance of copyright:
- 1. Public record: registration put others on notice of copyrights protection .the registration of a work creates a public records of the holder’s right to restrict others from using the copy righted materials without permission.
- 2. Rule to sue for copyright infringement Registering a work for a copyright allows the owner to sue for copyright infringement .A copy right owner cannot sue for infringement until the work is registered with the copy right office a copy right owner can sue the infringer in the court .legal remedies includes the issuance of an injection or a restraining order, monetary damages and attorney fees

- Prima facia evidence:
- Prima facia means the evidence is sufficient to established the fact in question .to create prima facia case, the owner must register a work with the copyright office before or within five years of its publication

  copy right registration creates a prima facia evidence that the copy right is valid and that the stated facts are true.
- Damages :
- It is easier to recover damages for copyright infringemant if registration is timely .timely registration occurs when the owner registers the work within three months after its publication .

- TYPES OF WORK COVERED UNDER COPYRIGHT:

  1. Literary work: These work covered by copyright includes novels, short stories, screenplays,poems, plays, non-fiction work

- 2. Dramatic work: it include any piece for recitation,choreography work or entertainment in the mime ,the scenic arrangement or acting form of which is fixed in writing
- 3.Artistic work: it includes painting, drawings, photographs work of architecture and work of artistics craftmanship.

- 4. Cinematographic Film:

  it means any work of visual recording on any medium produced through a process from which a moving images.

- 5.Musical work:

  it consists of music and includes any graphical notation of such work but does not include any words or any action intended to be sung , spoken or performed with music.

- 6.sound Recording : it means a recording of sounds regardless of the medium on which such recording is made or the method by which the sounds are produced.

- Trade secrets:

  There are certain business activities and processes that are not patented, copyright or trademarked.

  Many business regard these as trade secrets. It could be special way of working ,price costings or business strategies.

  The most famous example is the recipe for coco-cola, which not patented. This is because coco-cola did not want to reveal the recipe to their competitors.

- These are the law that protect trade secrets, a particularly important and inexpensive IP rights.

- Features of trade secrets:
- 1. Trade secrets can cover information that is not patentable:

  Trade secrets encompass a broader category than patents. Trade secrets may cover an invention but also cover information one do not want the competitors to know. Because trade secrets need not be novel,owner s can sometimes benefits from trade secrets protection even where patent protection is not available.
- 2. Trade secrets must be secrets:

  To benefit from court protection ,trade secrets must be protected and kept secret.

- 3.Trade secrets are potentially duration:

  A trade secret need never expire. The trade secret owner can benefit from trade secret protection so long as information remain secret and the company owner uses it.

- 4Trade secret can be non-exclusive:

  many different owners can use the same trade secret so long as each one arrives at the secret through legitimate means, such as independent development.

- 5.Trade secret can be reversed engineered:

  The law permits reverse engineering. In other words, a competitor can fairly obtained a company ‘s product ,take it apart, determine how it works, and use that information to compete.

- END

Module -5
Innovation in Reality

- INNOVATION MINDSET

  A mindset is a individuals philosophy of life.

  A mindset is a set of assumptions, methods or notations held by one or more people or group of people that is so established that it creates a powerful incentive within these people or groups to continue to adopt or accept prior behaviours, choices, or tools. This phenomenon is also sometimes described as “mental interia.”

-

- Characteristics of innovation:

  “ Thomas described an innovation mindset as an attitude that stimulates and motivates individual employees, as well as cross-functional innovation teams to adopt a belief in creating something new.

  . characteristics of an innovation :

- 1. considering innovation as creative problem solving ,not blue sky ideas and Brainstroming
- 2. having a well defined new product development
- 3. developing compensation incentives to simulate an entrepreneurial environment

- ESSENTIAL ELEMENTS OF INNOVATION MINDSET:
- 1. Innovation blue print:

  A vision defines the future role that innovation should play relative to the long-term goal of the company. expected overall investment and returns should be included.
- 2. innovation strategy :

  A frame work that bridges the business strategy and the new product goals filled by them.
- 3. consumer-driven process:

  A step-wise development process that is systematic and flexibility. The process begins with the identification of potential problem categories and consumer problems.

- 4. dedicated team:

  the formation of cross functional teams with motivated members.

  At a maximum the team member should be dedicated full time to the team with no other operating responsibilities other than innovation.

- 5. performance based on rewards :

  psychic rewards including peer recognition ,descriptive praise exposure to top management and achievement rewards

- 6. Innovation norms and values:

  innovation values or beliefs and innovation norms ,which set-up the communication approach and behavioural guidelines for the team and other participant to work by.

- 7. Measurement:

  Metrics that identify the returns on innovation and investment requirements and innovation indices that track and monitor progress

- LATERAL THINKING:

  lateral thinking is the ability to think creatively or “outside the box” as it sometimes referred to in business to use your inspiration and imagination.

- Lateral thinking is a way of thinking which seeks the solution to intractable problems through unorthodox methods or elements which would normally be ignored by logical thinking

  Lateral thinking is solving problems through an indirect and creative approach, using reasoning that is not immediately obvious and involving ideas that may not be obtainable by using only traditional step-by-step logic.

- According to ‘Edward de bobo’ “lateral thinking is a method of exploring multiple possibilities and approaches instead of pursing a single approach”

CHARACTERISTICS or FEATURE OF LATERAL THINKING FOR INNOVATION: (5marks)

- The various characteristics of lateral thinking are as follows:
- 1. Closely related to creativity:

  Though creativity is too often the description of a result , lateral thinking is the description of the process.

  In order to be creative one need to use and handle information and supporting knowledge leading to logical and unconventional ways of dealing with a situation or issue.

- 2. Concern with changing pattern:

  lateral thinking is concerned with changing patterns or breaking out of the concept prison of old ideas and generation of new ideas and insight .insight can be determined through alterations in a sequence.

- 3. Both an attitude and a method of using information:

  As an attitude ,lateral thinking challenges arrogance of rigidity and dogma. It acknowledges the usefulness of an existing pattern but also aims towards building a different pattern not just as an alternative but as logical approach.

- 4. Never a judgement:

  lateral thinking does not hold a pattern to be wrong but rigidity of same to be wrong. the key factor of lateral thinking is way information can be used, altered and which then becomes a part of the line of the development

- 5.Directly Related to the Information Handling Behaviour of the mind :

  The need for lateral thinking arises from the limitations of a self maximising memory pattern .lateral thinking aims at breaking old pattern in order to liberate information .

- 6. Concerned with generation of new ideas:

  Lateral thinking is concerned with the generation of new ideas. There is a curious notion that new idea have to do with technical invention . This is a very minor aspect of the matter .new ideas are the stuff of change and progress in every field from science to art,from politics to personal

- 7 Distinct from Vertical thinking:

  lateral thinking is quite distinct from vertical thinking which the traditional type of thinking is. In vertical thinking one move forward by sequential steps each of which must be justified.

Explain the various lateral thinking skills or techniques

- 1.Brainstroming: can be used individually or as part of a group in order to produce a maximum number of ideas in the minimum amount of time on a given topic .it helps to examine problems,determine their causes and find possible solution or element of solution
- 2.WWWWHWH: is a technique that involves asking questions in order to identify all aspects of a problem, simple and quick, this method saves times by clarifying a situation using simple question who,what,where,when,how,why,how much.

- 3.Mind Mapping: involve applying your thoughts and idea in the form of visual map in order to structure your ideas. This techniques ensure that all aspects of a situation are considered and that project are prepared under the best possible conditions.
- 4.forced analogy :

  force analogy is very a fun-filled method of generating ideas.

  The idea is to compare the problem with something else that has little or nothing is common and gaining new insights

- 5.Attribute listing: attribute listing is a great technique for ensuring all possible aspects of a problem have been examined.
- Attribute list is a breaking the problem down into smaller and smaller bits and seeing what you discover when you do.
- Attribute listing is a very useful technique for quality improvement of complicated products .

Explain the concept out of box approach ?

Out of the box is an expression that describe non conformal ,creative thinking .it means approaching problems in new, innovative ways;conceptualizing problems differently and understanding your position in relation to any particular situation in a way you'd never thought of before

- The various ways to think outside the box are as follows

1. change your space

its important to get away from all the typical routines in order to foster creativity. The idea of changing it up is a common one amongst successful and creative thinkers this means that you either create a specific ritual around creativity or that you simply find a way to take a break

- 2. Brainstorm
  Throwing out tons of different ideas, especially ideas that might seem slightly off- the- wall can be great idea to pick out a few really good ideas.
  Brainstorming helps to open up your thinking so that your aren't stuck in the same old patterns

- 3.re-conceptualise the problems:
  looking at something in a new way allows you to look at new possible solutions that you might not otherwise have considered. fortunately,they are some concrete aids to re-conceptualising that you can draw on.

- Guidelines to think out of box:
- 1. set a parameter to focus the ideas: too much freedom can hinder the creativity. While ,boundaries help the memory function, giving ideas more depth and breadth. while brainstorming ,focus the thinking by asking specific questions.
- 2. Search for Random Inspiration: To think outside the box one needs to trigger the brain to make connections it normally would not make. To do that ,look for inspiration that seems entirely unrelated to the problem.

- 3. Aims for quality, not Quality: While generating ideas,turn off the internal editor. Try to exhaust good ideas and start throwing out suggestion that seem wrong. Remember ,one can always make a bad idea better after the fact.
- 4.Keep an open mind : maintain a liberal ,open mind ,un conventional wisdom, the zeal to be different , and a non-conformist approach to uncover things .look beyond the traditional ways of accomplishing tasks . If one has always done it the same way, how about trying a new strategy that could prove more productive. There is always a better way to get something done one has never gone through.

- 5. Challenge yourself:

  Learning a new topic will not only teach a new set of facts and figures, it will teach a new way of looking at and making sense of aspects of the everyday life or of the society or the business .one should be willing to take new perspectives to day-to-day work. start questioning everything .

- 6. Stop Speaking and Start listening:

  one must be capable of listening to, supporting, nurturing and respecting others when they come up with new ideas. Give a favour change to the team and colleagues involved in the process.

- Get Rid of Habits that Ability to change:

  Negative attitude, fear of failure perfectionism, following conventional rules without questioning their efficiency have all proven to inhibits creativity . Thinking ‘inside the box” may not be necessarily bad,but when one refuses to review the business processes to verify if they are actually giving the best results that one should achieve ,this barriers the growth.

- INNOVATION METHODS FOR PROBLEMS SOLVING:
- 1.Brainstormings(BSt)

  A small group of people .typically fewer than eight individuals ,are given a problems statement , people propose ideas as they come to mind ,stimulated either by the problems statement itself or by inputs from other participants.
- 2. Brain writing(BWr) It is a written from of brainstorming. often called brains writing,six people write three ideas at the top of a page. Each page is then circulated around the group and each person has five minutes to use the three newest ideas on their page to generate three additional ideas.

- 3. Heuristics Re-Definition Process:

  The purpose of heuristics problems re-definition is to generate a new problems statement by linking the goals to the under consideration.
- The opportunity and goal must be clearly stated.
- The process must be mapped out and its essential elements.
- The impact of each element must be described.

- 4.Transformation of ideal solution elements with association and commonalities.(TILMAG)

  TILMAG can be used to set -up focused brainstorming or brain writing on specific aspects or requirements of a problem .therefore,TILMAG constrains thinking and produces problem statements that may initiate the Bst or Bwr processes will then produce a divergent output set.

- 5.Theory of inventive problem solving(TRIZ)

  TRIZ recognises that the process of solving a problem is independent of its technical content.

-

END