UNIT - II

- Building an Innovative Organization: Creativity in organizations
- – Building organizational environment – Need Analysis: Questionnaires, Online tools, SWOT analysis;
- Technology watch; Focus group; Desk Research – Innovation Management Process – stages of innovation
- - planning and financing Innovation projects – Innovation and organization: Creating new
- products and services, Exploiting open innovation and collaboration,
- Use of innovation for starting a new venture;
- Class Discussion- Innovation: Co-operating across networks vs. ‘go-it-alone’ approach

Building an Innovative Organization

- 'Innovation has nothing to do with how many R&D dollars you have. . . . it's not about money. It's about the people you have, how you're led, and how much you get it.'
- (Steve Jobs, interview with Fortune Magazine, 1998 1)

- This chapter deals with the creation and maintenance of an innovative organiza-
- tional context, one whose structure and underlying culture – pattern of values and
- beliefs – support innovation. It is easy to find prescriptions for innovative organizations which highlight the need to eliminate stifling bureaucracy, unhelpful structures,
- brick walls blocking communication and other factors stopping good ideas getting
- through. But we must be careful not to fall into the chaos trap – not all innovation
- works in organic, loose, informal environments or ‘skunk works’ – and these types of

TABLE 11.1 Components of the innovative organization

Component	*Key features*
Shared vision, leadership and the will to innovate	Clearly articulated and shared sense of purpose Stretching strategic intent 'Top management commitment'
Appropriate structure	Organization design which enables creativity, learning and interaction. Not always a loose 'skunk works' model; key issue is finding appropriate balance between 'organic and mechanistic' options for particular contingencies
Key individuals	Promoters, champions, gatekeepers and other roles which energize or facilitate innovation
Effective team working	Appropriate use of teams (at local, cross-functional and inter-organizational level) to solve problems. Requires investment in team selection and building

Continuing and stretching individual development	Long-term commitment to education and training to ensure high levels of competence and the skills to learn effectively
Extensive communication	Within and between the organization and outside. Internally in three directions – upwards, downwards and laterally
High involvement in innovation	Participation in organization-wide continuous improvement activity
External focus	Internal and external customer orientation. Extensive networking
Creative climate	Positive approach to creative ideas, supported by relevant motivation systems
Learning organization	High levels of involvement within and outside the firm in proactive experimentation, finding and solving problems, communication and sharing of experiences and knowledge capture and dissemination

- Much has been made of the dramatic turnaround in IBM's fortunes under the leadership of Lou Gerstner who took the ailing giant firm from a crisis position to one of leadership in the IT services field and an acknowledged pioneer of e-business. But closer analysis reveals that the entry into e-business was the result of a bottom-up team initiative led by a programmer called Dave Grossman. It was his frustration with the lack of response from his line managers that eventually led to the establishment of a broad coalition of people within the company who were able to bring the idea into practice and establish IBM as a major e-business leader. The message for senior management is as much about leading through creating space and support within the organization as it is about direct involvement.

Creativity

CREATIVITY

The use of imagination / Original Ideas to create something, inventiveness.

Although there are many approaches about creativity, it is commonly defined as a mental process, which involves the generation of new ideas or new associations of the creative mind between existing concepts. An alternative conception of creativity is that it is simply the act of making something new.

CREATIVE THINKING STYLES

DIVERGENT THINKING

- Think around or away from the problem
- Discontinuity / break
- 'Dig another hole'
- Spontaneous, informal, random
- Remove constraints

unconscious processes

CONVERGENT THINKING

- Think through or into the problem
- Continuity / evolution
- 'Dig a deeper hole'
- Systematic, formal, focused
- Work within constraints
- Conscious processes

CREATIVE THINKING

DIVERGENT THINKING

Is The Intellectual Ability To Think Of Many Original, Diverse, And Elaborate Ideas.

CONVERGENT THINKING

Is The Intellectual Ability To Logically Evaluate, Critique And Choose The Best Idea From A Selection Of Ideas.

The 4 P's of Creativity

- Person
- Product
- Process
- Place (or environment)

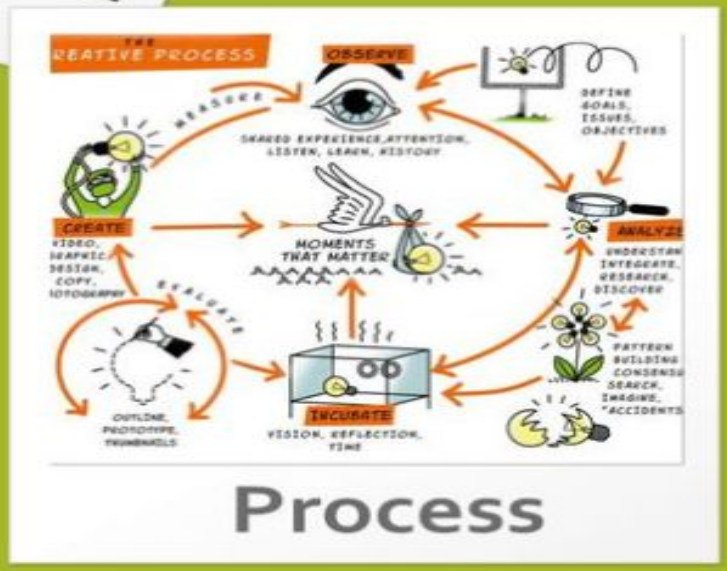
Place (or environment)

Workplace

Workplace

Person

Product



Process

Creative People: Creative Characteristics

- Aware of Creativeness
- Original
- Independent
- Risk Taking
- Energetic
- Curious
- Humorous
- Attracted to Complexity
- Artistic
- Open-Minded
- Needs Alone Time
- Perceptive

CREATIVE PROCESS

Combination of two ideas that are unrelated

Creative problem solving (CPS)

Brainstorming

DETERMINANTS OF ORGANIZATIONAL CREATIVITY

Five major organizational factors that enhance creativity in a work environment:

- Organizational climate
- Leadership style
- Organizational culture
- Resources and skills
- The structure and systems of an organization

HOW CAN ORGANIZATIONS FOSTER CREATIVITY?

- Higher Creative People
- Provide Resources
- Design Challenging Jobs
- Set a clear origination goals
- Reward creativity
- Create right organization culture

MANAGEMENT STYLE AND CREATIVITY

Provide autonomy

Encourage productivity

Supportive supervision, climate, and work group

CHECKLIST FOR ORGANIZATIONAL CHARACTERISTICS

1. RISK TAKING IS ACCEPTABLE TO MANAGEMENT.
2. NEW IDEAS & NEW WAYS OF DOING THINGS.
3. INFORMATION IS FREE FLOWING AND CONTROLLED BY MANAGERS.
4. GOOD IDEAS ARE SUPPORTED BY EXECUTIVE PATRONS.
5. INNOVATORS ARE REWARDED.

Mintzberg's structural archetypes

- Simple structure: Centralized organic type (SME)
- Machine bureaucracy: Centralized mechanistic type (McDonalds, Ford, TESCO)
- Divisionalized form: Decentralized organic form.(L&T. Tata Motors)
- Professional bureaucracy: Decentralized mechanistic form (Formal R&D, IT, engineering groups)
- Adhocracy: Project type organization (NASA)
- Mission-oriented (Charity organization like Dignity Foundation)

TABLE 3.2 Mintzberg's structural archetypes

Organization archetype	Key features	Innovation implications
Simple structure	Centralized organic type – centrally controlled but can respond quickly to changes in the environment. Usually small and often directly controlled by one person. Designed and controlled in the mind of the individual with whom decision-making authority rests. Strengths are speed of response and clarity of purpose. Weaknesses are the vulnerability to individual misjudgement or prejudice and resource limits on growth	Small start-ups in high technology – 'garage businesses' are often simple structures. Strengths are in energy, enthusiasm and entrepreneurial flair – simple structure innovating firms are often highly creative. Weaknesses are in long-term stability and growth, and overdependence on key people who may not always be moving in the right business direction
Machine bureaucracy	Centralized mechanistic organ-ization, controlled centrally by systems. A structure designed like a complex machine with	Machine bureaucracies depend on specialists for innovation, and this is channelled into the overall design of the system. Examples include fast

TABLE 3.2 (Continued)

Organization archetype	Key features	Innovation implications
	people seen as cogs in the machine. Design stresses the function of the whole and specialization of the parts to the point where they are easily and quickly interchangeable. Their success comes from developing effective systems which simplify tasks and routinize behaviour. Strengths of such systems are the ability to handle complex integrated processes like vehicle assembly. Weaknesses are the potential for alienation of individuals and the build up of rigidities in inflexible systems	food (McDonald's), mass production (Ford) and large-scale retailing (Tesco), in each of which there is considerable innovation, but concentrated on specialists and impacting at the system level. Strengths of machine bureaucracies are their stability and their focus of technical skills on designing the systems for complex tasks. Weaknesses are their rigidities and inflexibility in the face of rapid change, and the limits on innovation arising from non-specialists
Divisionalized form	Decentralized organic form designed to adapt to local environmental challenges. Typically associated with larger organizations, this model involves specialization into semi-independent units. Examples would be strategic business units or operating divisions. Strengths of such a form are the ability to attack particular niches (regional, market, product, etc.) whilst drawing on central support. Weaknesses are the internal frictions between divisions and the centre	Innovation here often follows a 'core and periphery' model in which R&D of interest to the generic nature is carried out in central facilities whilst more applied and specific work is carried out within the divisions. Strengths of this model include the ability to concentrate on developing competency in specific niches and to mobilize and share knowledge gained across the rest of the organization. Weaknesses include the 'centrifugal pull' away from central R&D towards applied local efforts and the friction and competition between divisions which inhibits sharing of knowledge
Professional bureaucracy	Decentralized mechanistic form, with power located with individuals but coordination via standards. This kind of organization is characterized by relatively high levels of professional skills, and	This kind of structure typifies design and innovation consulting activity within and outside organizations. The formal R&D, IT or engineering groups would be good examples of this, where technical and specialist excellence is valued. Strengths of

(continued)

TABLE 3.2 (Continued)

Organization archetype	Key features	Innovation implications
	is typified by specialist teams in consultancies, hospitals or legal firms. Control is largely achieved through consensus on standards ('professionalism') and individuals possess a high degree of autonomy. Strengths of such an organization include high levels of professional skill and the ability to bring teams together	this model are in technical ability and professional standards. Weaknesses include difficulty of managing individuals with high autonomy and knowledge power
Adhocracy	Project type of organization designed to deal with instability and complexity. Adhocracies are not always long-lived, but offer a high degree of flexibility. Team-based, with high levels of individual skill but also ability to work together. Internal rules and structure are minimal and subordinate to getting the job done. Strengths of the model are its ability to cope with high levels of uncertainty and its creativity. Weaknesses include the inability to work together effectively due to unresolved conflicts, and a lack of control due to lack of formal structures or standards	This is the form most commonly associated with innovative project teams — for example, in new product development or major process change. The NASA project organization was one of the most effective adhocracies in the programme to land a man on the moon; significantly the organization changed its structure almost once a year during the 10-year programme, to ensure it was able to respond to the changing and uncertain nature of the project. Strengths of adhocracies are the high levels of creativity and flexibility — the 'skunk works' model advocated in the literature. Weaknesses include lack of control and overcommitment to the project at the expense of the wider organization
Mission-oriented	Emergent model associated with shared common values. This kind of organization is held together by members sharing a common and often altruistic purpose — for example, in voluntary and charity organizations. Strengths are high commitment and the ability of individuals to take	Mission-driven innovation can be highly successful, but requires energy and a clearly articulated sense of purpose. Aspects of total quality management and other value-driven organizational principles are associated with such organizations, with a quest for continuous improvement driven from within rather than in response to external stimulus. Strengths lie in the

(continued)

TABLE 3.2 (Continued)

Organization archetype	Key features	Innovation implications
	initiatives without reference to others because of shared views about the overall goal. Weaknesses include lack of control and formal sanctions	clear sense of common purpose and the empowerment of individuals to take initiatives in that direction. Weaknesses lie in overdependence on key visionaries to provide clear purpose, and lack of 'buy-in' to the corporate mission

Figure 11.1 The five-stage high-involvement innovation model

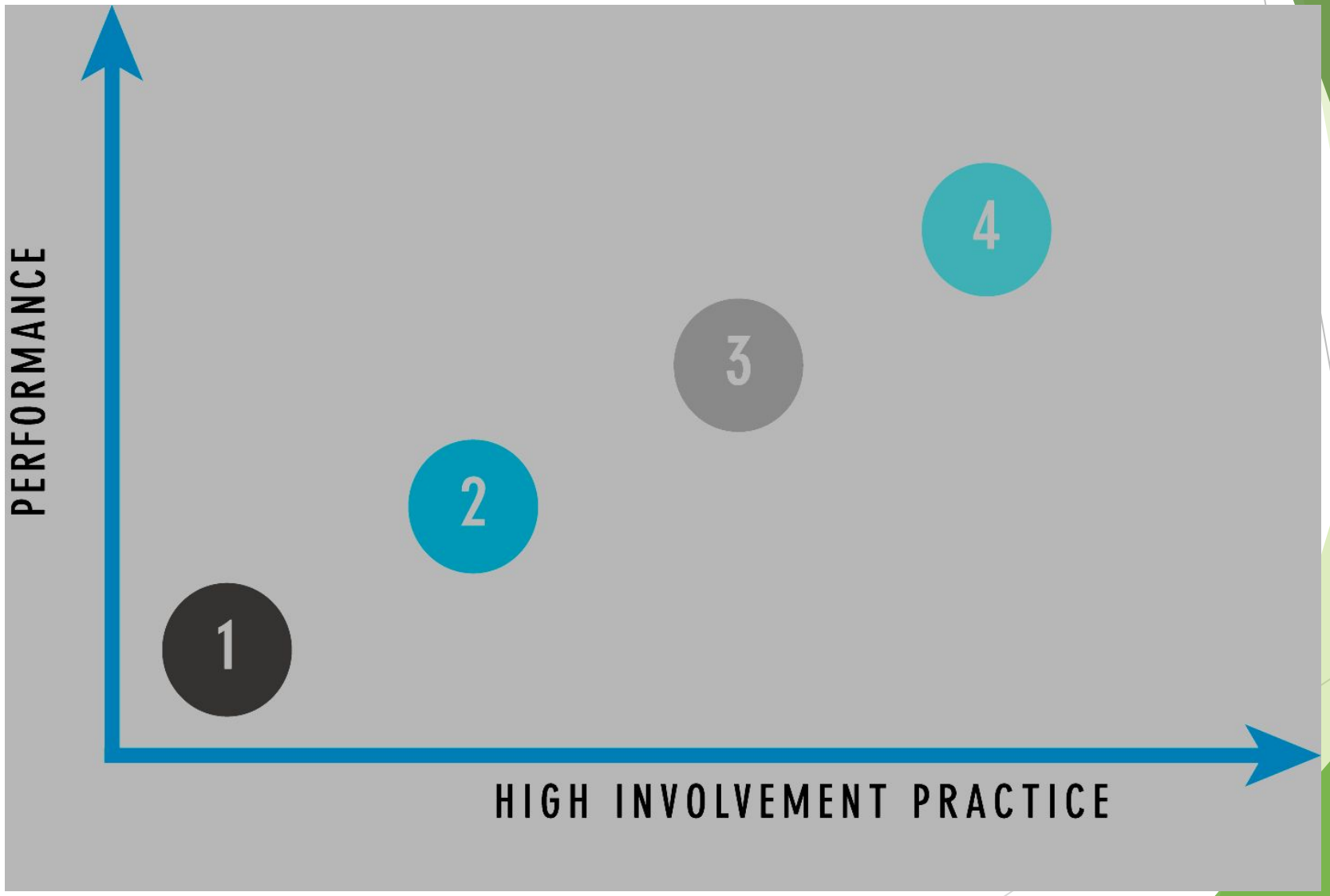


TABLE 11.4 Stages in the evolution of HII capability

Stage of development	*Typical characteristics*
1. 'Natural'/background HII	Problem-solving random No formal efforts or structure Occasional bursts punctuated by inactivity and non-participation Dominant mode of problem-solving is by specialists Short-term benefits No strategic impact
2. Structured HII	Formal attempts to create and sustain HII Use of a formal problem-solving process Use of participation Training in basic HII tools Structured idea management system Recognition system Often parallel system to operations
3. Goal-oriented HII	All of the above, plus formal deployment of strategic goals Monitoring and measurement of HII against these goals In-line system
4. Proactive/empowered HII	All of the above, plus responsibility for mechanisms, timing, etc., devolved to problem-solving unit Internally directed rather than externally directed HII High levels of experimentation
5. Full HII capability — the learning organization	HII as the dominant way of life Automatic capture and sharing of learning Everyone actively involved in innovation process Incremental and radical innovation

Stage 1

- The first stage – level 1 – is what we might call 'unconscious HII'.
- There is little, if any, HII activity going on, and when it does happen it is essentially random in nature and occasional in frequency.
- People do help to solve problems from time to time – for example, they will pull together to iron out problems with a new system or working procedure, or getting the bugs out of a new product.
- But there is no formal attempt to mobilize or build on this activity, and many organizations may actively restrict the opportunities for it to take place.

Level 2

- Level 2, on the other hand, represents an organization's first serious attempts to mobilize HII.
- It involves setting up a formal process for finding and solving problems in a structured and systematic way – and training and encouraging people to use it.
- Supporting this will be some form of reward/recognition arrangement to motivate and encourage continued participation.
- Ideas will be managed through some form of system for processing and progressing as many as possible and handling those which cannot be implemented.
- Underpinning the whole set-up will be an infrastructure of appropriate mechanisms (teams, task forces or whatever), facilitators and some form of steering group to enable HII to take place and to monitor and adjust its operation over time.
- None of this can happen without top management support and commitment of resources to back that up.
- The danger in such HII is that, once having established the habit of HII, it may lack any clear target and begin to fall away.
- In order to maintain progress there is a need to move to the next level of HII – concerned with strategic focus and systematic improvement.

Level 3

- Level 3 involves coupling the HII habit to the strategic goals of the organization such that all the various local level improvement activities of teams and individuals can be aligned.
- In order to do this two key behaviours need to be added to the basic suite those of strategy deployment and of monitoring and measuring.
- Strategy (or policy) deployment involves communicating the overall strategy of the organization and breaking it down into manageable objectives towards which HII activities in different areas can be targeted.
- Linked to this is the need to learn to monitor and measure the performance of a process and use this to drive the continuous improvement cycle.
- Level 3 activity represents the point at which HII makes a significant impact on the bottom line – for example, in reducing throughput times, scrap rates, excess inventory,etc.
- It is particularly effective in conjunction with efforts to achieve external measurable standards (such as ISO 9000) where the disciplines of monitoring and measurement provide drivers for eliminating variation and tracking down root cause problems.
- The majority of ‘success stories’ in HII can be found at this level – but it is not the end of the journey.

Level 4

- The move to level 4 introduces a new element – that of 'empowerment' of individuals and groups to experiment and innovate on their own initiative.
- Clearly this is not a step to be taken lightly, and there are many situations where it would be inappropriate – for example, where established procedures are safety critical.
- But the principle of 'internally directed' HII as opposed to externally steered activity is important, since it allows for the open-ended learning behaviour which we normally associate with professional research scientists and engineers.
- It requires a high degree of understanding of, and commitment to, the overall strategic objectives, together with training to a high level to enable effective experimentation.
- It is at this point that the kinds of 'fast-learning' organizations described in some 'state-of-the-art' innovative company case studies can be found – places where everyone is a researcher and where knowledge is widely shared and used.

LEVEL 5

- Level 5 is a notional end-point for the journey – a condition where everyone is fully
- involved in experimenting and improving things, in sharing knowledge and in creating an active learning organization.
- In the end the task is one of building a shared set of values which bind people in the organization together and enable them to participate in its development.

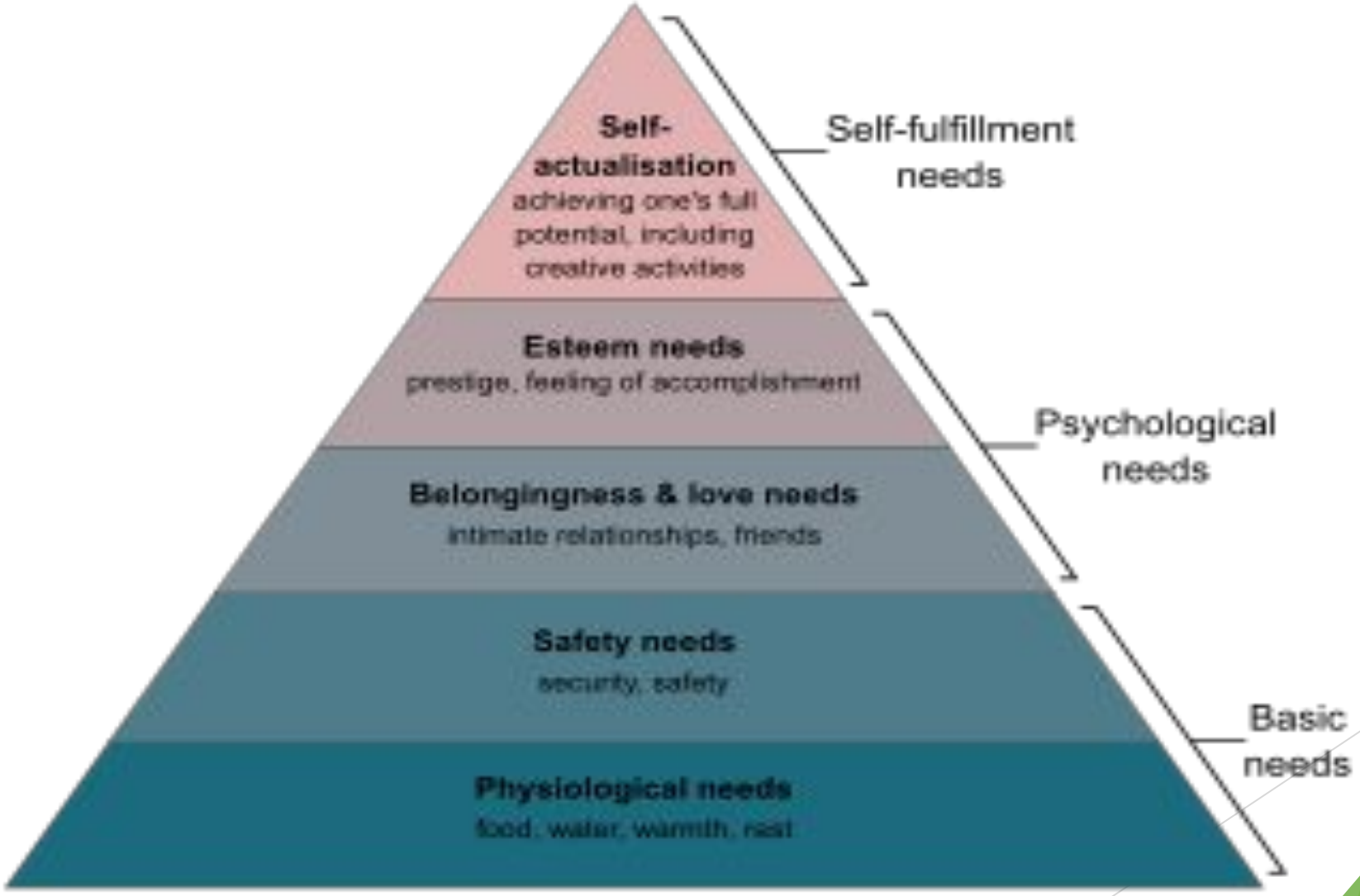
High Involvement in Innovation (HII)

- Creative skills and Problem solving abilities are processed by each & every employee.
- Although each employee may be able develop limited, incremental innovations, the sum of these have far reaching effects

e.g. The Japanese quality revolution

A study of British companies which have won the “Investor-in-people” (IiP) award as against an average company shows glaring differences.

Maslow's hierarchy of needs



Need Analysis

- Effective acquisition of customer **needs** is critical to product **innovation**, and customer **needs** can be classified into three types according to different difficulty levels of capturing, they are customer **needs** that can be got directly, the predictable customer **needs**, and the unpredictable customer **needs**.

Importance of need analysis

- A **need analysis** is an investigation into a **need** of your organisation. It helps you ensure that any tendering **process** will focus on a solution to the exact problem. ... By then correctly formulating the **need** in the request, the scope for **innovations** that can satisfy the **need** can be provided.

- https://hbr.org/2010/12/31-innovation-questions

Questionnaire

- **Questionnaire**: A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents.
- Questionnaires are commonly used to gather first-hand information from a large audience, in the form of a survey.
- There are different types of questionnaires in practice and the type of questionnaire to be used usually depends on the purpose of the survey and the type of data that has to be collected.
- Questionnaires are highly practical and can be carried out by any number of people, and the results can be quickly quantified as well.
- Over the years, this form of conducting research has also been proven to be more scientifically accurate, as compared to other quantitative research tools.

Questionnaire Formats

- **Questions in Open Ended Format:** Questions that allow the target audience to voice their feelings and notions freely are called open-format questions or open-ended questions.
- **Questions in Closed Ended Format:** Questions which have multiple options as answers and allow respondents to select a single option from amongst them are called closed-format or closed-ended questions. This type of questionnaire is especially useful when conducting preliminary analysis.

Leading Questions

What do you think of the horrible effects of pollution?

Importance Questions

How do you rate our services?

1 – Extremely helpful
2 – Very helpful
3 – Somewhat helpful
4 – Not very helpful
5 – Not at all helpful

Likert Questions

How often do you visit the zoo?

1 – Never
2 – Rarely
3 – Sometimes
4 – Often
5 – Always

Dichotomous Questions

Do you think that number of branches available for our bank is adequate?

- ○ Yes
- ◉ No

Bipolar Questions

What is your preference for the following?

I like going for walks	[ ]	[ ]	[ ]	[✓]	[ ]	I like watching a movie

Rating Scale Questions

How would you rate our services?

1 – Good

2 – Fair

3 – Poor

4 – Very Poor

Buying Propensity Questions

If our devices support wireless charging, would you think about buying it?

1 – Definitely
2 – Probably
3 – Probably not
4 – Not sure
5 – Definitely not

3. Other Types of Questionnaires: Mixed questionnaires consist of closed as well as open-ended questions. These are normally used in the field of social research

As part of your business travels, have you ever travelled to one of the following countries? If none, select "none of the above"

1 – Australia
2 – USA
3 – Turkey
4 – Other (Please Specify)
5 – None of the above

- **Pictorial questionnaire** on the other hand is used in promotion of interest to answer questions.

Sample What have you been eating most?

SWOT ANALYSIS

SWOT Analysis

- A scan of the internal and external environment is an important part of the strategic planning process. Environmental factors internal to the firm usually can be classified as strengths (**S**) or weaknesses (**W**), and those external to the firm can be classified as opportunities (**O**) or threats (**T**).

Strengths

- A firm's strengths are its resources and capabilities that can be used as a basis for developing a competitive advantage. Examples of such strengths include:
  - patents
  - strong brand names
  - good reputation among customers
  - cost advantages from proprietary know-how
  - exclusive access to high grade natural resources
  - favorable access to distribution networks

Weaknesses

- The absence of certain strengths may be viewed as a weakness. For example, each of the following may be considered weaknesses:
  - lack of patent protection
  - a weak brand name
  - poor reputation among customers
  - high cost structure
  - lack of access to the best natural resources
  - lack of access to key distribution channels

Opportunities

- The external environmental analysis may reveal certain new opportunities for profit and growth. Some examples of such opportunities include:
  - an unfulfilled customer need
  - arrival of new technologies
  - loosening of regulations
  - removal of international trade barriers

Threats

- Changes in the external environmental also may present threats to the firm. Some examples of such threats include:
  - shifts in consumer tastes away from the firm's products
  - emergence of substitute products
  - new regulations
  - increased trade barriers

The SWOT Matrix

	Strengths	Weaknesses
Opportunities	S-O strategies	W-O strategies
Threats	S-T strategies	W-T strategies

The SWOT Matrix

- The SWOT matrix is shown below:
  - **S-O strategies** pursue opportunities that are a good fit to the company's strengths.
  - **W-O strategies** overcome weaknesses to pursue opportunities.
  - **S-T strategies** identify ways that the firm can use its strengths to reduce its vulnerability to external threats.
  - **W-T strategies** establish a defensive plan to prevent the firm's weaknesses from making it highly susceptible to external threats.

Technology watch

- **Technology watch** is a strategic assessment of current and future **technologies** and their potential impact on business vision and competitiveness.
- Technological forecasting is the prediction of future characteristics of technological devices
- Technology Forecasting, also called technology watch, observes, tracks, filters and assess potential technologies in order to determine how they will be in the following months or years and how to use them.
  The process is broken down into four phases which are the following:
- – audit of needs
  – collection of data
  – data procesing
  – integration of the results
- Technology forecasting should identify any possible innovation (scientific or technical) which could create opportunities and allow the company to avoid threats.

- Technology watch is the process of capturing, analyzing and disseminating information related to a specific technology area.
- This typically includes:
  - Latest innovations and IP
  - Emerging trends and developments
  - Active companies and their R&D strategies
  - Hot startups and innovators
  - Impact of new technology adoption
  - Potential impact of technological change
  - New market opportunities

BENEFITS OF TECHNOLOGY WATCH

Understand the value of emerging technologies:

- It's no secret that early tech adopters grow and win the market faster than laggards.
- But to become an early adopter, staying aware of emerging technologies that can potentially disrupt the business landscape is key.
- A good tech watch report will not only track nascent technologies but also provide insight into the value they bring to the table.
- This provides the technology intelligence that R&D and corporate strategy teams need to support decision making.

Strengthen your technology portfolio

- Given today's market expectations and competitive pressures, innovation efforts that offer great payoffs are critical.
- This calls for strengthening your innovation portfolio by removing less profitable IP and adding ones that bestow strategic value.
- Tech watch reports include strategic insights on leading players, technologies/products, application areas, and patent assignees/inventors/universities/institutes based on in-depth IP research.
- These insights highlight potential collaboration or research partnership opportunities for enterprises to make game-changing innovations and technology investment decisions.

Secure new market opportunities:

- Spotting untapped markets and unexplored technology avenues is key to business growth and survival.
- However, getting it requires a thorough understanding of the technology application and the market fit.
- Knowledge about the market landscape and maturity, government/industry regulations, consumer behavior, and economic trends are crucial for targeting the right market with the right value proposition.
- Technology watch can offer these insights based on the knowledge gathered from patent databases, scientific journals, market reports, among others.

Focus group

- A focus group is a group interview involving a small number of demographically similar people. Their reactions to specific researcher-posed questions are studied.
- **Focus groups** are used to identify and explore how people think and behave, and they throw light on why, what and how questions.
- Just as every project needs time to Create, it needs ample opportunity to Evaluate. But because the work of Creation is different from Evaluation, it's imperative to bring in those equal to the task. The question isn't one of "either/or" but actually "when."
- Marketers clearly need both types of groups, but for different reasons:
- **For Creation**, it's often helpful to bring in a group with "intra-diversity." These types of groups have greater idea pliability, low associative barriers to allow for divergent thinking, and the ability to use different perspectives to generate lots of different ideas.
- **For Evaluation**, a group with "inter-diversity," generally pulled from the identified Target (such as a focus group), can provide learning on what's resonating in concepts—as well as ferret out additional challenges to drive even greater relevance.

- Consumers are WIRED to find the negative. It is actually an evolutionary trait that we are trained to find the problems, threats and challenges around us.
- Consumers respond to ideas differently when they are alone vs. with other people. It has been proven that consumers are more receptive to ideas when responding alone—and less so when they're in a group.
- Regular consumers live in the NOW—they can't project what the world will be like in 3-5 years. In the world of NOW, stores look a certain way, items are bought in a certain way, and people receive information in a certain way.

Desk Research - Methodology and Techniques

- Desk Research is the research technique which is mainly acquired by sitting at a desk. Desk research is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories.
- However, it could also be a complete waste of time and money if the researcher does not have the proper knowledge of how the research in performed.
- Desk research is very effective and can be conducted in starting phase of market research as it is quite quick and cheap and most of the basic information could be easily fetched which can be used as benchmark in the research process.

Two types of desk research techniques

- **Internal Desk Research -** Internal desk research can be treated as the most reasonable starting point of research for any organization.
- Much Information could be generated internally within the organization as a course of normal process.
- Account related information which indicates what type of products are sold, in how much quantity and at what cost, sold to which type of customers including their geographical location and so on.
- The main advantage here in performing internal desk research is that it involves internal and existing organizational resources to organize the collected data in such a way that it is not only efficient but also usable.
- Internal desk research is comparatively very cheap and effective as internal recourses are deputed and the expenditure in getting data from outside is less.

- **External Desk Research -** External Desk Research involves research done outside the organizational boundaries and collecting relevant information. These outside resources are described below:

a. **Online Desk Research -** There is incredible amount of data available online on internet.

b. It's important for organization to be information specific while fetching out this information as there are billions of pages available on internet.

c. There could be two approaches for digging out the relevant information from internet, one is directly browsing the specific information from industrial, marketing or business sites and extracting the information out of these sites.

d. Secondly, using the various search engines like www.google.com, www.yahoo.com, www.infoseek.go.com, www.altavista.com etc, for modulated searching.

e. The important aspect here is to refine the searching techniques in such a way that results are promising and relevant.

f. For this it is necessary that the researcher should know the importance of the research and follow the guideline intellectually to reduce the efforts made and time consumed in searching.

a. Government published data - Government usually publishes a great extent of data online that can be used in the research process.

- This data is related to social, financial and economical aspects.
- The government websites are mostly free to access and contains most prominent information.
- Thus, this could be the cheapest medium of gathering the information.

b. Customer desk research - One of the best and most prominent ways of extracting information for research is directly communicating with existing or prospect customer.

- Customers are the one who are considered the most informed as they are actually using products and services and are aware of the current market trends more than any other.
- Hence the feedback and information provided by customers is the most accurate and useful data which can be used most effectively in the further process of research.

INNOVATION PROCESS

- Recognizing or scanning the environment.
- Aligning the overall business strategy & proposed innovation.
- Acquiring technology from outside.
- Generating technology in-house.
- Exploring & selecting the most suitable response to the environment.
- Executing & implementing innovation.
- Learning lessons for improvement.
- Developing the organization.