Sharif University of Technology
Graduate School of Management & Economics

CREATIVITY

INNOVATION

Dr. S. Alireza Feyzbakhsh
Creativity

Thinking new things

Innovation

Doing new things

Entrepreneurship

Creating value in the market place

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Creativity - a necessity for Survival

PARIS IN THE
THE SPRING TIME

Can creativity be Taught?

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Creative Thinking

Always ask “Is there a better way?”

Challenge custom, routine and tradition

See from a different perspective

Be reflective, deep in thought

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More than one “right answer”

See mistakes and failures as pit stops on the way to success

Relate unrelated ideas to generate innovative solutions

Have “Helicopter skills”
Barriers to Creativity

1. Searching for the one “right” answer.
2. Focusing on “being logical”.
3. Blindly following the rules.
4. Constantly being practical.
5. Viewing play as frivolous.
7. Avoiding ambiguity.
8. Fearing looking foolish.
10. Believing that “I’m not creative”.

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How to Enhance Creativity

- Expecting creativity.
- Expecting and tolerating failure.
- Encouraging curiosity.
- Viewing problems as challenges.
- Providing creativity training.
- Providing support.
- Rewarding creativity.
- Modeling creativity.

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1. **Preparation.** Involves getting the mind ready for creative thinking

2. **Investigation.** Requires the individual to develop a solid understanding of the problem or decision.

3. **Transformation.** Involves viewing the similarities and the difference among the information collected.

4. **Incubation.** Allows the subconscious mind to reflect the information collected.
5. **Illumination.** Occurs at some point during the incubation stage when a spontaneous breakthrough causes “the light bulb to go on”

6. **Verification.** Involves validating the idea as accurate and useful.

7. **Implementation.** Involves transforming the idea into a business reality.
CREATIVE PROBLEM SOLVING

- Brainstorming
- Reverse brainstorming
- Synectics
- Gordon method
- Checklist method
- Free association
- Forced relationships
- Collective notebook method

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CREATIVE PROBLEM SOLVING

- Heuristic
- Scientific method
- Value analysis
- Attribute listing method
- Matrix charting
- Inspired (big-dream) approach
- Parameter analysis

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PRODUCT PLANNING AND DEVELOPMENT PROCESS

- Idea stage
- Concept stage
- Product development stage
- Test marketing stage
- Commercialization

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Major Innovation Myths

- Myth 1
  Innovation is planned and predictable

- Myth 2
  Technical specifications should be thoroughly prepared

- Myth 3
  Creativity relies on dreams and blue-sky ideas
Major Innovation Myths

- Myth 4
  Big projects will develop better innovations than smaller ones

- Myth 5
  Technology is the driver force of innovation and success

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Sources of Innovation

- Unexpected occurrences
- Incongruities
- Process needs
- Industry and market changes
- Demographic changes
- Perceptual changes
- Knowledge-based concepts
Principles of Innovation

- Be action oriented
- Make the product, process, or service Simple and understandable
- Make the product, process, or service Customer-based
- Start small
- Aim high
- Learn from failures
- Follow a milestone schedule
- Reward heroic activity
- Work, work, work

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No enterprise will have creative owners and managers for long if the right climate is not established and nurtured.
The generation of ideas that result in the improved efficiency or effectiveness of a system
THE DREAMERS WHO DO

1. INNOVATION IN PROCESS INCLUDING CHANGES AND IMPROVEMENTS TO METHODS. INCREASING PRODUCTIVITY DECREASES COSTS, AND INCREASING DEMAND.

2. INNOVATION IN PRODUCTS OR SERVICES.
The Nature of Creative Process

- Everyone is creative but to some degree
- A great aptitude for creativity
- Educate & environment
- Taught to think & act creatively

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Ways to generate creative ideas

- Keep an idea file or notebook
- Talk with people-network
- Read voraciously
- Try thinking in opposites
- Look for new uses for old things
- Brainstorm your way to a new idea
- Team with an inventor
- Look to the government

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