

Chapter 2 Inside the Entrepreneurial Mind: From Ideas to Reality

Part 1: Learning Objectives

1. Explain the differences among creativity, innovation, and entrepreneurship.
2. Describe why creativity and innovation are such an integral part of entrepreneurship.
3. Understand how the two hemispheres of the human brain function and what role they play in creativity.
4. Explain the 10 “mental locks” that limit individual creativity.
5. Understand how entrepreneurs can enhance the creativity of their employees as well as their own creativity.
6. Describe the steps in the creative process.
7. Discuss techniques for improving the creative process.
8. Describe the protection of intellectual property involving patents, trademarks, and copyrights.

Part 2: Class Instruction

Introduction

One of the tenets of entrepreneurship is the ability to create new and useful ideas that solve the problems and challenges that people face every day. As Chapter 1 discussed, entrepreneurs can create value in a number of ways. For example, entrepreneurs invent new products and services, develop new technology, discover new knowledge, improve existing products or services, and find different way of providing more valuable goods and services with fewer resources.

Creativity, Innovation, and Entrepreneurship

LO 1

Creativity is the ability to develop new ideas and discover new ways of looking at problems and opportunities.

Innovation is the ability to apply creative solutions to problems and opportunities that enhance or enrich people’s lives.

One entrepreneur explains, “Creativity is only useful if it is channeled and directed.” Leadership expert Warren Bennis says, “Today’s successful companies live and die according to the quality of their ideas.” A small percentage of product ideas prove to be successful products. It is this creativity that is an important source of building a competitive advantage .

Entrepreneurship is the result of a disciplined, systematic process of applying creativity and innovation to needs and opportunities in the marketplace. Innovation must be a constant process because most ideas do not work and most innovations fail.

Creativity – Essential to Survival

LO 2

Creativity is an important source for building a competitive advantage and for survival.

Making the inferential leap from what has worked in the past to what will work today (or in the future) requires entrepreneurs to cast off their limiting assumptions, beliefs, and behaviors and to develop new insights into the relationship among resources, needs, and values.

A **paradigm** is a preconceived idea of what the world is, what it should be like, and how it should operate. These ideas become so deeply rooted in our minds that they become blocks to creative thinking, even though they may be outdated, obsolete, and no longer relevant. A paradigm may also be defined in the following ways:

- A shared set of assumptions—*The way we perceive the world helping to explain and predict its behavior.*
- An overarching model—*A concept that is either so widely accepted, or applicable to so many different areas, that it can be used as a type of template for understanding.*
- A set of rules and regulations, written or unwritten—*It establishes or defines boundaries and tells you how to behave inside the boundaries.*

Paradigms stifle creativity when they limit or restrict the way people think about possible solutions. Paradigms set parameters and cause thinking to be based on past “rules and procedures” rather than open, creative thinking that can lead to innovative solutions. Creative and innovative thought must break through the barriers that paradigms can present.

Can creativity be taught? Research shows that anyone can learn to be creative. Author Joyce Wycoff believes everyone can learn techniques and behaviors that generate ideas.

A creative exercise, shown in Figure 2.1 – “How Creative Are You?” can be used to explore aspects of creativity. The solutions to this exercise follow.

Solutions to Figure 2.1 – “How Creative Are You?”

The following table provides the solutions to Figure 2.1. How Creative Are You?

Hot Under the Collar	Overnight Delivery	July 4	Stroke of Genius
Shop ‘til you drop	Circle the Wagons	Spring Break	Pitching Rotation
Ace in the hole	Side Effects	Intense Desire	Throw in the Towel
Air Hockey	Johnny on the Spot	I’m in a Big Rush	Sweat Equity
High Court Nominee	No Worse for the Wear	Trick Up Your Sleeve	He Gave Me a Blank Look
Water Over the Dam	Fork Over the Money	Grading on the curve	Web Links
Sideburns	100 Meter Backstroke	No Time for Fooling Around	See You Around
Lost in the Shuffle	First Thing in the Morning	Down for the Count	Point of Contention

Sources: Terry Stickels, “Frame Games,” *USA Weekend*, August 12-14, 2005, p. 30; August 19-21, 2005, p.18; June 13-15, 2003, p. 26; October 17-19, 2003, p. 18; October 31-November 2, 2003, p. 22; February 27-29, 2004, p. 18; May 14-16, 2004, p. 30; November 26-28, 2004, p. 18; August 20-22, 2004, p.15; October 22-24, 2004, p. 26; March 4-6, 2—5, p. 15; April 8-10, 2005, p. 23; May 6-8, 2005, p. 19; October 8-10, 2004, p. 19; January 23-25, 2004, p. 14.

Creative Thinking

LO 3

Research into the operation of the human brain shows that each hemisphere of the brain processes information differently. One side of the brain tends to be dominant over the other. The human brain develops asymmetrically, and each hemisphere tends to specialize in certain functions. The left-brain handles language, logic, and symbols. The right brain takes care of the body's emotional, intuitive, and spatial functions.

Right-brained lateral thinking is somewhat unconventional, unsystematic, and relies on kaleidoscope/lateral thinking. This describes the process of considering a problem from all sides and jumping into it at different points.

Left-brained vertical thinking is narrowly focused and systematic, proceeding in a highly logical fashion from one point to the next. Left-brain thinking is guided by a linear, vertical thought process progressing from one logical conclusion to the next.

Those who have learned to develop their right-brained thinking skills tend to:

- Challenge custom, routine, and tradition
- Realize there is more than one “right answer”
- Have “helicopter skills” to rise above daily routine
- Ask the question: “Is there a better way?”

Entrepreneurs can learn to tap their innate creativity by breaking down the barriers to creativity that most of us have.

Entrepreneurship requires both left- and right-brained thinking.

Barriers to Creativity

LO 4

There are many barriers to creativity—time pressures, unsupportive management, pessimistic coworkers, overly rigid company policies, and countless others.

The most difficult hurdles to overcome are those that individuals impose upon themselves. In his book, *A Whack on the Side of the Head*, Roger von Oech identifies ten “mental blocks” that limit individual creativity. They are as follows:

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

Questions to spur the imagination are presented in Table 2.1 include:

1. Is there a new way to do it?
2. Can you borrow or adapt it?
3. Can you give it a new twist?
4. Do you merely need more of the same?
5. Do you need less of the same?
6. Is there a substitute?
7. Can you rearrange the parts?
8. What if you do just the opposite?
9. Can you combine ideas?
10. Are customers using your product or service in ways you never expected or intended?
11. Which customers are you not servicing? What changes to your product or service are necessary to reach them?
12. Can you put it to other uses?
13. What else could we make from this?
14. Are there other markets for it?
15. Can you reverse it?
16. Can you rearrange it?
17. Can you put it to another use?
18. What idea seems impossible, but if executed, would revolutionize your business?

How to Enhance Creativity

LO 5

New ideas are fragile creations, but the right organizational environment can encourage people to develop and cultivate them.

Ensuring that workers have the freedom and the incentives to be creative is one of the best ways to achieve creativity.

Entrepreneurs can stimulate their own creativity and encourage it among workers by:

1. Including creativity as a core company value
2. Hire for creativity
3. Establish an organizational structure that nourishes creativity
4. Embracing diversity
5. Expecting creativity
6. Expecting and tolerating failure
7. Incorporate fun into the work environment

8. Encouraging curiosity
9. Design a work space that encourages creativity
10. View problems as challenges
11. Provide creativity training
12. Provide support
13. Develop a procedure for capturing ideas
14. Talk and interact with customers
15. Monitor emerging trends and identify ways your company can capitalize on them
16. Look for uses for your company's products or services in other markets
17. Rewarding creativity
18. Modeling creative behavior

You can enhance individual creativity by using the following techniques:

1. Allow yourself to be creative
2. Forget the "rules"
3. Give your mind fresh input every day
4. Travel and observe
5. Observe the products and services of other companies, especially those in complete different markets
6. Recognize the creative power of mistakes
7. Notice what is missing
8. Keep a journal handy to record your thoughts and ideas
9. Listen to other people
10. Listen to customers
11. Watch a movie
12. Talk to a child
13. So something ordinary in an unusual way
14. Keep a toy box in your office
15. Take note of your "pain points"
16. Do not throw away seemingly "bad" ideas
17. Read books on stimulating creativity or take a class on creativity
18. Take some time off
19. Be persistent

The Creative Process

LO 6

Although new ideas may appear to strike like a bolt of lightning, they are actually the result of the creative process. The creative process involves seven steps:

1. Preparation
2. Investigation
3. Transformation
4. Incubation
5. Illumination
6. Verification
7. Implementation

Techniques for Improving the Creative Process

LO 7

Brainstorming is a process in which a small group interacts with very little structure to produce a large quantity of novel and imaginative ideas. For a brainstorming session to be successful, an entrepreneur should follow these guidelines:

1. Keep the group small—five to eight members
2. Make the group as diverse as possible
3. Encourage participants to engage in some type of aerobic exercise before the session
4. Company rank and department affiliation are irrelevant
5. Give the group a well-defined problem to address
6. Provide the group relevant background information about the problem in advance
7. Limit the session to 40 to 60 minutes
8. Take a field trip to visit the scene of the problem
9. Appoint someone the job of recorder
10. Use a seating pattern that encourages communication
11. Throw logic out the window
12. Encourage all ideas from the team, even wild and extreme ones
13. Establish a goal of quantity of ideas rather than quality
14. Forbid evaluation or criticism
15. Encourage “idea hitch-hiking”
16. Dare to imagine the unreasonable

Mind-mapping is an extension of brainstorming. Mind-mapping is a graphical technique that encourages thinking on both sides of the brain, visually displays the various relationships between ideas, and improves the ability to view the problem from many sides. It relates to the way the brain actually works. Rather than throwing out ideas in a linear fashion, the brain jumps from one idea to another. In many creative sessions, ideas are rushing out so fast that many are lost if a person attempts to shove them into a linear outline.

The mind-mapping process works this way:

1. Sketch a picture symbolizing the problem
2. Write down every idea that comes to your mind – use key words and symbols
3. When idea flow starts to trickle, stop
4. Allow your mind to rest a few minutes

Force Field Analysis addresses the problem to be solved, the driving forces, and the restraining forces. Refer to Figure 2.3 – Sample Force Field Analysis.

TRIZ is a systematic approach to solve any technical problem and relies on 40 principles and left-brain thinking to solve problems. Refer to Figure 2.4 – TRIZ Contradiction Matrix.

Rapid prototyping transforms ideas into actual models that point out flaws and lead to improvements. The three principles of rapid prototyping are “The Three R’s”: *rough, rapid, and right*.

Protecting Your Ideas

LO 8

Entrepreneurs must understand how to put patents, copyrights and trademarks to work for them.

- **Patents** – a grant from the federal government’s Patent and Trademark Office (PTO), to the inventor, giving the exclusive right to use or sell the invention in the US for 20 years from the date of the patent application.
- Inventors who develop a new plant can obtain a **plant patent** (by grafting or cross-breeding, not planting seeds).
- Most patents are granted for new product inventions, but design patents, which extend beyond the date the patent is issued, are given to inventors who make new original and ornamental changes in the designs of existing products that enhance their sales.
- A device cannot be patented if it has been in print anywhere in the world.
- Before beginning the lengthy process of applying for a patent, it is best to seek the advice of a patent agent or attorney.

Figure 2.5: Patent Applications and Patents Issued graphs the number of patent applications from 1975 to 2011.

A list of registered patent, copyright and trademark professionals are available at:
<http://www.uspto.gov/web/offices/dcom/olia/oed/roster/>

The patent process involves these six steps:

1. Establish the invention's novelty
2. Document the device
3. Search existing patents
4. Study search results
5. Submit the patent application
6. Prosecute the patent application

A **trademark** is any distinctive word, phrase, symbol, design, name, logo, slogan, or trade dress that a company uses to identify the origin of a product or to distinguish it from other goods in the market. A **service mark** is the same as a trademark, except that it identifies and distinguishes the source of a service rather than a product. Refer to Figure 2.7 – Trademark Applications and Trademarks and Renewals Issued.

A **copyright** is an exclusive right that protects the creators of original works of authorship such as literary, dramatic, musical, and artistic works. This includes motion pictures, software, choreography, books, and recordings.

Protecting intellectual property is imperative. Unfortunately, not every businessperson respects the rights of ownership to products, processes, names, and works. The dynamics of the global market makes protecting intellectual property even more challenging. The primary weapon is efficient use of the legal system. Before bringing a lawsuit, an entrepreneur must consider the following issues:

1. Can the opponent afford to pay if you win?
2. Will you get enough from the suit to cover the costs of hiring an attorney?
3. Can you afford the loss of time and privacy from the ensuing lawsuit?

Conclusion

The creative process is a tenant of the entrepreneurial experience. Success, and even survival itself, requires entrepreneurs to tap their creativity. The seven steps of the creative process allow the entrepreneur to transform an idea into a business reality.

1. Preparation
2. Investigation
3. Transformation
4. Incubation
5. Illumination
6. Verification
7. Implementation

Creativity results in value and value provides a competitive advantage. Entrepreneurs should protect their creative ideas through patents, trademarks, servicemarks, and copyrights to sustain a competitive edge.

Part 3: Chapter Exercises

You Be the Consultant: “Charles Darwin Was Right”

page 47

1. **“Small businesses can remake themselves faster than larger companies, says a small business consultant. Do you agree? Explain.**

Expect students to recognize the ability of a small business to be more responsive to customers, markets and environmental changes compared to larger and businesses. Small businesses may be more adept to apply creative solutions and be innovative to better solve problems and pursue opportunities. Small businesses can change procedures and processes faster and be more nimble to respond in spite of their potentially limited resources. When small business owners cannot outspend their larger rivals, they can create powerful competitive advantages by “outcreating” and “outinnovating” their larger competitors.

2. **Select one of the three businesses featured above and use the creativity-stimulating techniques described in this chapter to generate ideas for transforming their businesses and getting them back on the pathway to profitability. Write a brief memo to the business owner(s) that describes your ideas.**

Students should consider one or more of these creativity-stimulating options:

- **Brainstorming** – This may generate a list of new ideas for these businesses to explore.
- **Mind-mapping** – This graphical technique may improves the ability to view the problem from many sides.
- **Force Field Analysis** – This approach focuses on the practicality and “fit” of an idea as it weights the advantages and disadvantages it offers. Refer to Figure 2.3 on page 70 for additional insight.
- **TRIZ** - This systematic approach to problem solving relies on 40 principles and students may want to refer to Figure 2.4 - TRIZ Contradiction Matrix on page 71.
- **Rapid prototyping** – Product-based businesses may benefit from transforming ideas into actual models that point out flaws and lead to improvements.

The students’ memo should capture the ideas these techniques generate for Garden Associates Landscape Architects, Mike George Fitness System or Stone Hearth Pizza.

Part 4: Chapter Discussion Questions

1. Explain the differences among creativity, innovation, and entrepreneurship. (LO 1)

Creativity is the ability to develop new ideas and to discover new ways of looking at problems and opportunities.

Innovation is the ability to apply creative solutions to those problems and opportunities to enhance or enrich people's lives.

Entrepreneurship is the ability of the entrepreneur to apply creative ideas into a business model and succeed by doing things in an innovative way.

2. How are creativity, innovation, and entrepreneurship related? (LO 2)

Creativity is a core business skill that develops new ideas and discovers new ways of looking at problems and opportunities, and entrepreneurs lead the way in developing and applying that skill. Innovation is the ability to apply creative solutions to problems and opportunities to enhance or enrich people's lives. Successful entrepreneurs come up with creative ideas and then find ways to make them work to solve a problem or fill a need. In an ever-changing world, creativity and innovation are vital to a company's success and survival.

3. Why are creativity and innovation so important to the survival and success of a business? (LO 2)

Creativity offers the potential to generate something from nothing. When small business owners cannot outspend their larger rivals, they can create powerful competitive advantages by "outcreating" and "outinnovating" their larger competitors. Today's successful businesses live and die according to the quality of their ideas and the ability to protect them.

4. One entrepreneur claims, "Creativity unrelated to a business plan has no value." What does he mean? Do you agree? (LO 2)

Yes, creativity is only useful if it is channeled and directed in a viable business concept. The definition of innovation addresses the importance of applying this creativity to bring value to others. Expect students to leverage information from the chapter to support their decision.

5. Can creativity be taught or is it an inherent trait? Explain. (LO 3)

Creativity can be taught. Research indicates that anyone can be creative. Each person can be taught techniques and behaviors that can help them generate new and creative ideas to solve problems and pursue opportunities.

6. How does the human brain function? What operation does each hemisphere specialize in? What hemisphere is the "seat" of creativity? (LO 3)

Each hemisphere of the human brain processes information differently and one side of the brain tends to be dominant over the other. The left brain is guided by linear, vertical thinking and handles language, logic, and symbols. The right brain takes care

of the body's emotional, intuitive, and spatial functions, relying heavily on images. The "seat" of creativity comes from the right brain that more efficiently leverages these attributes.

7. Briefly outline the "ten mental locks" that can limit individual creativity. Give an example of a situation in which you subjected yourself to one of these mental locks. (LO 4)

The ten mental blocks are:

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
6. Becoming overly specialized
7. Avoiding ambiguity
8. Fearing looking foolish
9. Fearing mistakes and failure
10. Believing that "I'm not creative"

Each student will have a different "mental lock" experience. Encourage them to express and describe that mental lock.

8. What can entrepreneurs do to stimulate their own creativity and to encourage it among workers? (LO 5)

Enhancing individual creativity:

- Allow yourself to be creative
- Give your mind daily input
- Keep a journal
- Read books that stimulate creativity
- Take a class on creativity
- Take some time off

Ways to enhance creativity:

- Expect it
- Tolerate and expect failure
- Encourage curiosity
- View problems as challenges
- Provide creativity training
- Provide support
- Reward creativity
- Model creative behavior

9. Explain the steps of the creative process. What can an entrepreneur do to enhance each step? (LO 7)

The steps of the creative process include:

1. Preparation
2. Investigation
3. Transformation
4. Incubation
5. Illumination
6. Verification
7. Implementation

Techniques to assist entrepreneurs improve the creative process include brainstorming, mind–mapping, and rapid prototyping.

10. Explain the differences among a patent, a trademark, and a copyright. What form of intellectual property does each protect? (LO 8)

- A *patent* is a grant from the federal government’s Patent and Trademark Office (PTO) to the inventor of a product, giving the exclusive right to make, use, or sell the *invention* in the U.S. for 20 years from the date of filing the patent application.
- A *trademark* is any distinctive word, phrase, symbol, design, name, logo, slogan, or trade dress that a company uses to identify the *origin of a product* or to distinguish it from other goods in the marketplace.
- A *copyright* is an exclusive right that protects the *creators of original works* of authorship such as literary, dramatic, musical, and artistic works. Examples of these works include video games, software, sculptures, motion pictures, choreography and others.

Part 5: Case Studies

The following text cases may be used for lecture and assignments for topics presented in this chapter.

- Case 2: Mixed Chicks

Part 6: Online Videos and Podcasts

These online videos may enhance class discussion and provide additional insight for the chapter topics.

- From Artist to Entrepreneur 46:17 minutes
<http://ecorner.stanford.edu/authorMaterialInfo.html?mid=2278>
- Creativity Loves Constraint 1:40 minutes
<http://ecorner.stanford.edu/authorMaterialInfo.html?mid=1530>
- Intellectual Property 1:50 minutes
<http://blip.tv/file/3003762>
- The Simple Truths of Change 2:20 minutes
<http://www.changeisgoodmovie.com/>
- The Simple Truths of Creativity 2:20 minutes
<http://www.paperairplanemovie.com/>
- Three Factors to Improve Entrepreneurial Success 2:11 minutes
<http://www.youtube.com/watch?v=W7ubqh1Rkts&feature=channel>
- What is Creativity? 6:10 minutes
<http://ecorner.stanford.edu/authorMaterialInfo.html?mid=1187>

Links to additional online resources are available on the companion Web site at www.pearsonhighered.com/scarborough.