

# **ENTREPRENEURSHIP**



Robert D. Hisrich • Michael P. Peters • Dean A. Shepherd



# ENTREPRENEURSHIP

ELEVENTH EDITION

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#### ENTREPRENEURSHIP, ELEVENTH EDITION

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To our wives,
Tina, Debbie, and Suzie,
and children,
Kary, Katy, Kelly, Christa, Kimberly, Jack, and Meg,
and grandchildren,
Rachel, Andrew, Sarah and Jack,
for their supportive entrepreneurial spirit

# ABOUT THE AUTHORS

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### PREFACE

Starting and operating a new business involves considerable risk and effort to overcome the inertia against creating something new. In creating and growing a new venture, the entrepreneur assumes the responsibility and risks for its development and survival and enjoys the corresponding rewards. This risk is compounded for entrepreneurs who go international or who are in fact born global. The fact that consumers, businesspeople, and government officials from every part of the world are interested in entrepreneurship is evident from the increasing research on the subject, the large number of courses and seminars on the topic, the more than two million new enterprises started each year (despite a 70% failure rate), the significant coverage and focus by the media, and the realization that this is an important aspect of the economics of the developed, developing, and even controlled economies.

Who is the focus of all this attention? Who is willing to accept all the risks and put forth the effort necessary to create a new venture? It may be a man or a woman, someone from an upper-class or lower-class background, a technologist or someone lacking technological sophistication, a college graduate, or a high school dropout. The person may be an investor, manager, nurse, salesperson, engineer, student, teacher, homemaker, or retiree. It is always someone able to juggle work, family, and civic responsibilities while meeting payroll.

To provide an understanding of this person and the process of creating and growing a new venture on an international basis, this 11th edition of *Entrepreneurship* is divided into five major sections.

Part 1—The Entrepreneurial Perspective introduces the entrepreneur and the entrepreneurial process from both a historical and research perspective. The role and nature of entrepreneurship as a mechanism for creating new ventures and affecting economic development are presented, along with career aspects and the future direction of entrepreneurship. The characteristics and background of entrepreneurs are discussed, as well as some methods for individual self-assessment. Following the presentation on corporate entrepreneurship, this part concludes with a discussion on strategies for generating and exploiting new entries.

Part 2—From Idea to the Opportunity focuses on the aspects of creativity, innovation, and all the elements in the entrepreneurial process that are a part of creating the new venture. Focus is on the various sources of ideas as well as trends occurring through this decade. Specific attention is also paid to various creative problem-solving technologies, identifying domestic and international opportunities, as well as other legal concerns in forming and launching the venture.

Part 3—From the Opportunity to the Business Plan focuses on the all-important business plan. First, the overall business plan and its various aspects are presented. Then, a chapter is devoted to each of the major components of the business plan: the marketing plan, the financial plan, and the organizational plan.

Part 4—From the Business Plan to Funding the Venture focuses on the most difficult aspects of creating and establishing a new venture-raising capital. First, the aspects of debt versus equity and internal versus external funding are discussed. After a discussion of the alternative sources of capital (self, family and friends, suppliers and trade credit, government grants and programs, private placements, and commercial banks), specific attention is given to three financing mechanisms: informal risk capital, venture capital, and going public.

#### Part 5-From Funding the Venture to Launching, Growing, and Ending the New Venture

presents material related to establishing, developing, and ending the venture. Particular attention is paid to developing the entrepreneurial strategy, establishing strategies for growth, managing the new venture during growth, early operations, expansion, and accessing external resources for growth. Managerial skills that are important to the successful performance and growth of the new venture are included in this part, which also addresses methods for ending the venture. Specific topics examined include mergers and acquisitions, franchising, joint ventures, and human and financial resources needed for growth.

To make *Entrepreneurship*, 11th edition, as meaningful as possible to students, each chapter begins with learning objectives and a profile of an entrepreneur whose career is especially relevant to the chapter material. Numerous business examples occur throughout each chapter along with important websites to assist the reader in getting started. Boxed summaries of articles in the news (As Seen in *Business News*) illustrate the chapter discussions and Ethics boxes discussing ethical issues are found in all the chapters. Each chapter concludes with research tasks, class discussion questions, and selected readings for further research and study.

At the end of the book is a selection of Cases that can be used along with any chapter, as well as listing of other appropriate cases on a chapter-by-chapter basis.

Many people—students, business executives, entrepreneurs, professors, and publishing staff—have made this book possible. Of great assistance were the detailed and thoughtful comments of our reviewers:

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Robert D. Hisrich Michael P. Peters Dean A. Shepherd



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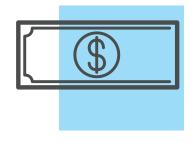


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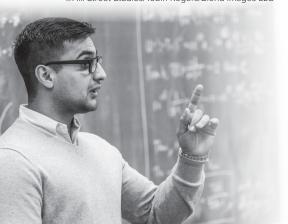
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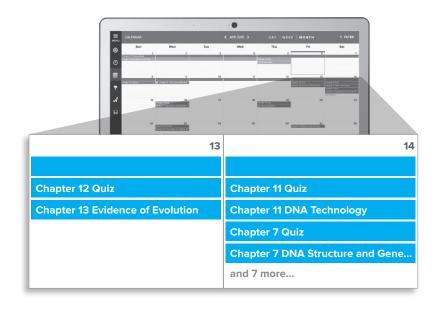
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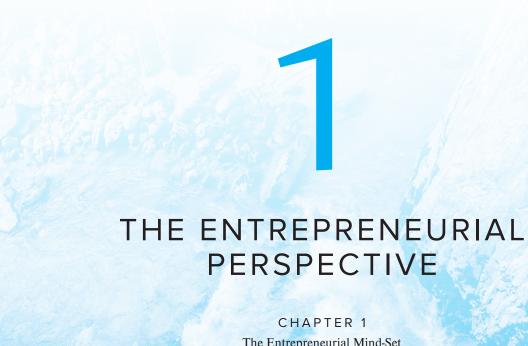
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The Entrepreneurial Mind-Set

CHAPTER 2

Corporate Entrepreneurship

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Generating and Exploiting New Entries



#### LEARNING OBJECTIVES

1

To introduce the concept of entrepreneurship and explain the process of entrepreneurial action.

2

To describe how structural similarities enable entrepreneurs to make creative mental leaps.

3

To highlight bricolage as a source of entrepreneurs' resourcefulness.

4

To introduce effectuation as a way expert entrepreneurs sometimes think.

-

To develop the notion that entrepreneurs cognitively adapt.

6

To introduce sustainable entrepreneurship as a means of sustaining the natural environment and communities and developing gains for others.



#### **OPENING PROFILE**

#### **EWING MARION KAUFFMAN**

Born on a farm in Garden City, Missouri, Ewing Marion Kauffman moved to Kansas City with his family when he was eight years old. A critical event in his life occurred several years later when Kauffman was diagnosed with a leakage of the heart. His prescription was one year of complete bed rest; he was not even allowed to sit up. Kauffman's mother, a college graduate,

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came up with a solution to keep the active 11-year-old boy lying in bed—reading. According to Kauffman, he "sure read! Because nothing else would do, I read as many as 40 to 50 books every month. When you read that much,

you read anything. So I read the biographies of all the presidents, the frontiersmen, and I read the Bible twice and that's pretty rough reading."

Another important early childhood experience centered on door-to-door sales. Since his family did not have a lot of money, Kauffman sold 36 dozen eggs collected from the farm or fish he and his father had caught, cleaned, and dressed. His mother was very encouraging during these formative school years, telling young Ewing each day, "There may be some who have more money in their pockets, but Ewing, there is nobody better than you."

During his youth, Kauffman worked as a laundry delivery person and was a Boy Scout. In addition to passing all the requirements to become an Eagle Scout and a Sea Scout, he sold twice as many tickets to the Boy Scout Roundup as anyone else in Kansas City, an accomplishment that enabled him to attend, for free, a two-week scout summer camp that his parents would not otherwise have been able to afford. According to Kauffman, "This experience gave me some of the sales techniques which came into play when subsequently I went into the pharmaceutical business."

Kauffman went to junior college from 8 to 12 in the morning and then walked two miles to the laundry where he worked until 7 p.m. Upon graduation, he went to work at the laundry full time for Mr. R. A. Long, who eventually became one of his role models. His job as route foreman involved managing 18 to 20 route drivers, where he would set up sales contests, such as challenging the other drivers to get more customers on a particular route than he could obtain. Kauffman says, "I got practice in selling and that proved to be beneficial later in life." R. A. Long made money not only at the laundry business but also on patents, one of which was a form fit for the collar of a shirt that would hold the shape of the shirt. He showed his young protégé that one could make money

with brains as well as brawn. Kauffman commented, "He was quite a man and had quite an influence on my life."

Kauffman's sales ability was also useful during his stint in the Navy, which he joined shortly after Pearl Harbor on January 11, 1942. When designated as an apprentice seaman, a position that paid \$21 per month, he responded, "I'm better than an apprentice seaman, because I have been a Sea Scout. I've sailed ships and I've ridden in whale boats." His selling ability convinced the Navy that he should instead start as a seaman first class, with a \$54 monthly salary. Kauffman was assigned to the admiral's staff, where he became an outstanding signalman (a seaman who transmitted messages from ship to ship), in part because he was able to read messages better than anyone else due to his previous intensive reading. With his admiral's encouragement, Kauffman took a correspondence navigator's course and was given a deck commission and made a navigation officer.

After the war was over in 1947, Ewing Kauffman began his career as a pharmaceutical salesperson after performing better on an aptitude test than 50 other applicants. The job involved selling supplies of vitamin and liver shots to doctors. Working on straight commission, without expenses or benefits, he was earning pay higher than the president's salary by the end of the second year; the president promptly cut the commission. Eventually, when Kauffman was made Midwest sales manager, he made 3 percent of everything his salespeople sold and continued to make more money than the president. When his territory was cut, he eventually quit and in 1950 started his own company—Marion Laboratories. (Marion is his middle name.)

When reflecting on founding the new company, Ewing Kauffman commented, "It was easier than it sounds because I had doctors whom I had been selling office supplies to for several years. Before I made the break, I went to three of them and said, 'I'm thinking of starting my own company. May I count on you to give me your orders if I can give you the same quality and service?' These three were my biggest accounts and each one of them agreed because they liked me and were happy to do business with me."

Marion Laboratories started by marketing injectable products that were manufactured by another company under Marion's label. The company expanded to other accounts and other products and then developed its first prescription item, Vicam, a vitamin product. The second pharmaceutical product it developed, oyster shell calcium, also sold well.

To expand the company, Kauffman borrowed \$5,000 from the Commerce Trust Company. He repaid the loan, and the company continued to grow. After several years, outside investors could buy \$1,000 worth of common stock if they loaned the company \$1,000 to be paid back in five years at \$1,250, without any intermittent interest. This initial \$1,000 investment, if held until 1993, would have been worth \$21 million.

Marion Laboratories continued to grow and reached over \$1 billion per year in sales, due primarily to the relationship between Ewing Kauffman and the people in the company, who were called associates, not employees. "They are all stockholders, they build this company, and they mean so much to us," said Kauffman. The concept of associates was also a part of the two basic philosophies of the company: Those who produce should share in the results or profits and treat others as you would like to be treated.

The company went public through Smith Barney on August 16, 1965, at \$21 per share. The stock jumped to \$28 per share immediately and has never dropped below that level,

sometimes selling at a 50 to 60 price/earnings multiple. The associates of the company were offered a profit-sharing plan, where each could own stock in the company. In 1968, Kauffman brought Major League Baseball back to Kansas City by purchasing the Kansas City Royals. This boosted the city's economic base, community profile, and civic pride. When Marion Laboratories merged with Merrill Dow in 1989, there were 3,400 associates, 300 of whom became millionaires as a result of the merger. The new company, Marion Merrill Dow, Inc., grew to 9,000 associates and sales of \$4 billion in 1998 when it was acquired by Hoechst, a European pharmaceutical company. Hoechst Marion Roussel became a world leader in pharmaceutical-based health care involved in the discovery, development, manufacture, and sale of pharmaceutical products. In late 1999, the company was again merged with Aventis Pharma, a global pharmaceutical company focusing on human medicines (prescription pharmaceuticals and vaccines) and animal health. In 2002, Aventis's sales reached \$16.634 billion, an increase of 11.6 percent from 2001, while earnings per share grew 27 percent from the previous year.

Ewing Marion Kauffman was an entrepreneur, a Major League Baseball team owner, and a philanthropist who believed his success was a direct result of one fundamental philosophy: Treat others as you would like to be treated. "It is the happiest principle by which to live and the most intelligent principle by which to do business and make money," he said.

Ewing Marion Kauffman's philosophies of associates, rewarding those who produce, and allowing decision making throughout the organization are the fundamental concepts underlying what is now called *corporate entrepreneurship* in a company. He went even further and illustrated his belief in entrepreneurship and the spirit of giving back when he established the Kauffman Foundation, which supports programs in two areas: youth development and entrepreneurship. Truly a remarkable entrepreneur, Mr. K, as he was affectionately called by his employees, will now produce many more successful "associate entrepreneurs."

Like Ewing Marion Kauffman, many other entrepreneurs and future entrepreneurs frequently ask themselves, "Am I really an entrepreneur? Do I have what it takes to be a success? Do I have sufficient background and experience to start and manage a new venture?" As enticing as the thought of starting and owning a business may be, the problems and pitfalls inherent to the process are as legendary as the success stories. The fact remains that more new business ventures fail than succeed. To be one of the few successful entrepreneurs requires more than just hard work and luck. It requires the ability to think in an environment of high uncertainty, be flexible, and learn from one's failures.

entrepreneurial
opportunities Those
situations in which new
goods, services, raw
materials, and organizing
methods can be
introduced and sold at
greater than their cost
of production

### THE NATURE OF ENTREPRENEURSHIP

Entrepreneurship plays an important role in the creation and growth of businesses, as well as in the growth and prosperity of regions and nations. These large-scale outcomes can have quite humble beginnings; entrepreneurial actions begin at the nexus of a lucrative opportunity and an enterprising individual. *Entrepreneurial opportunities* are "those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production." For example, an entrepreneurial opportunity

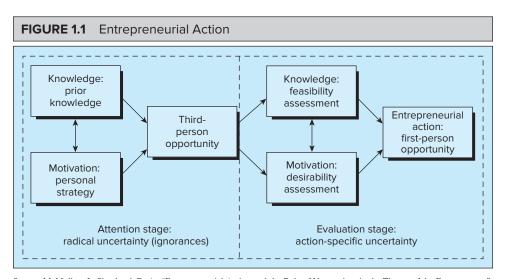
#### entrepreneurial action

Action through the creation of new products/ processes and/or the entry into new markets, which may occur through a newly created organization or within an established organization

could stem from introducing an existing technological product used in one market to create a new market. Alternatively, an entrepreneurial opportunity could be creating a new technological product for an existing market or creating both a new product/service and a new market. The recurring theme is that an entrepreneurial opportunity represents something new. However, such possibilities require an enterprising individual or a group of enterprising individuals to recognize, evaluate, and exploit these situations as possible opportunities. Therefore, entrepreneurship requires action—entrepreneurial action through the creation of new products/processes and/or the entry into new markets, which may occur through a newly created organization or within an established organization.

Entrepreneurs act on what they believe is an opportunity. Because opportunities exist in (or create and/or generate) high uncertainty, entrepreneurs must use their judgment about whether or not to act. However, doubt can undermine entrepreneurial action. Therefore, a key to understanding entrepreneurial action is being able to assess the amount of uncertainty perceived to surround a potential opportunity and the individual's willingness to bear that uncertainty. The individual's prior knowledge can decrease the amount of uncertainty, and his or her motivation indicates a willingness to bear uncertainty.

As illustrated in Figure 1.1, the McMullen-Shepherd model explains how knowledge and motivation influence two stages of entrepreneurial action. Signals of changes in the environment that represent possible opportunities will be noticed by some individuals but not others. Individuals with knowledge of markets and/or technology are more capable of detecting changes in the external environment, and if they are also motivated, they will allocate further attention to processing this information. Others, however, will remain ignorant of the possibility. The result of Stage 1 is an individual's realization that an opportunity exists for someone. The individual then needs to determine whether it represents an opportunity for him or her (Stage 2). This involves assessing whether it is feasible to successfully exploit the opportunity given one's knowledge and whether it is desirable given one's motivation. In other words, does this opportunity for someone (third-person opportunity belief) represent an opportunity for me (first-person opportunity belief)? If the individual overcomes enough doubt to form (1) the belief that the situation represents an opportunity for someone in general, and then (2) the belief that the opportunity for someone is an opportunity for himself or herself personally, this individual may act.



Source: McMullen, J., Shepherd, D. A., "Entrepreneurial Action and the Role of Uncertainty in the Theory of the Entrepreneur," *Academy of Management Review*, vol. 31, 2006, 132–142.

entrepreneurial
thinking Individuals'
mental processes of
overcoming ignorance to
decide whether a signal
represents an opportunity
for someone and/or
reducing doubt as to
whether an opportunity
for someone is also an
opportunity for them
specifically, and/or
processing feedback from
action steps taken

#### superficial similarities

Exist when the basic (relatively easy to observe) elements of the technology resemble (match) the basic (relatively easy to observe) elements of the market

#### structural similarities

Exist when the underlying mechanisms of the technology resemble (or match) the underlying mechanisms of the market Therefore, to be an entrepreneur is to act on the possibility that one has identified an opportunity worth pursuing.<sup>3</sup> It involves *entrepreneurial thinking*—individuals' mental processes of overcoming ignorance to decide whether a signal represents an opportunity for someone and/or reducing doubt as to whether an opportunity for someone is also an opportunity for them specifically, and/or processing feedback from action steps taken. To explain these processes more fully, we now turn to different forms of entrepreneurial thinking.

#### HOW ENTREPRENEURS THINK

Entrepreneurs think differently from nonentrepreneurs. Moreover, an entrepreneur in a particular situation may think differently from when faced with some other task or decision environment. Entrepreneurs must often make decisions in highly uncertain environments where the stakes are high, time pressures are immense, and there is considerable emotional investment. We all think differently in these strained environments than we do when the nature of a problem is well understood and we have time and rational procedures at hand to solve it. Given the nature of an entrepreneur's decision-making environment, he or she must sometimes (1) think structurally, (2) engage in bricolage, (3) effectuate, and (4) cognitively adapt.

### Think Structurally

Forming opportunity beliefs often requires creative mental leaps. These creative mental leaps are launched from a source—one's existing knowledge. In the case of entrepreneurial opportunities, an example of a creative mental leap is from knowledge about existing markets to a new technology that could lead to products/services that satisfy that market. Alternatively, the creative mental leap could be from knowledge about a technology to a new market that could benefit from its introduction. Making these connections between a new product (or new service, new business model, or new technology) and a target market where it can be introduced is aided by the superficial and structural similarities between the source (e.g., the market) and the destination (e.g., technology). Superficial similarities exist when the basic (relatively easy to observe) elements of the technology resemble (match) the basic (relatively easy to observe) elements of the market. In contrast, structural similarities exist when the underlying mechanisms of the technology (i.e., such as the capability of such a technology to perform a specific function) resemble (or match) the underlying mechanisms of the market (i.e., the latent demands of a large, potential group of customers). The entrepreneurial challenge often lies in making creative mental leaps based on *structural* similarities. This is best illustrated with an example based on a real case that Denis Grégoire from Syracuse University and me (Dean Shepherd from University of Notre Dame) used as part of a study of entrepreneurial thinking.<sup>4</sup>

The example is a technology developed by space and computer engineers at NASA's Langley Research Center. It involves big and bulky flight simulators used by space shuttle pilots. As such, the technology's superficial elements are very similar to a market for airline pilots training in flight simulators. In contrast, it has little superficial similarity with a target market of K-12 school children and their parents. The technology underlying the superficial situations includes attaching sensors to individuals' forefingers to monitor the electric conductivity of their skin to send signals to computer processors in another machine with which the individual interacts. Ultimately, these one-to-one relationships (skin to sensor and sensor to computer) culminate into a network of higher-order relationships that reflect the overall capabilities of the technology, its aims, and/or its uses. Therefore, the technology is capable of helping shuttle pilots (or airline pilots or teenage drivers) improve their abilities to focus, pay attention, and concentrate for an extended period. Looked at in a new light, however, the technology shares high levels of structural similarities with the target market of parents who

# AS SEEN IN BUSINESS NEWS

#### DO ENTREPRENEURS BENEFIT FROM PARANOIA?

Some believe that paranoia is a psychological condition that causes dysfunction. But, at least in terms of business, Andrew Grove, president and CEO of Intel Corp., believes that "Only the Paranoid Survive." By placing yourself in a state of paranoia, you become highly concerned about, and sensitive to, threats to your company and you are motivated to take action to alleviate or eliminate those threats.

#### PRINCIPLES OF ACTING PARANOIA

Underlying paranoia is a recognition that others want to achieve success and are willing to take it away from you. They are watching your business and how you respond to changes in the competitive environment. Therefore, Andrew Grove worries about product defects, releasing products too early, factories not performing efficiently, having too much (or too little) capacity, and so on. The principles of paranoia are the following:

1 Paranoia Means Not Resting on Your Laurels. This simply means that even given your past successes there are still threats out there; you must be vigilant to notice and then respond to these threats. Andrew Grove calls this a guardian attitude—the attitude that

- is required to protect the firm from potential competitor moves or other environmental threats.
- 2. Paranoia Means Being Detail Orientated. This means attending to even the smallest details because this is a major line of defense against threats. This means attending both to the details internal to running the business and to those external including catering to the demands of your customers.

Paranoia is particularly important when the business environment is characterized in terms of high levels of competition and high number of opportunities.

#### THE DOWNSIDE OF PARANOIA

There may be such thing as too much paranoia—too much time and effort invested in noticing and responding to threats. One entrepreneur uses the examples of using \$500 worth of accounting time to find a \$5 error (which does not make sense unless there is information of a more systematic problem that led to the \$5 error). Worrying "obsessively" could also be a warning sign, one that requires a remedy. Although entrepreneurs are known to often be thinking about their business, an inability to "turn it off," at least for short periods, can

seek nonpharmaceutical alternatives to treat attention deficit (ADHD). This opportunity to apply the technology to the market of parents seeking nonpharmaceutical alternatives to treat ADHD was not obvious to individuals who were distracted from the deeper structural similarities by the superficial mismatch between the technology and the new market.

Thus, individuals who can see or create structural matches between a technology and a target market, especially in the presence of superficial mismatches, are more likely to identify entrepreneurial opportunities. Knowledge specific to a technology and/or a market can facilitate this ability,<sup>5</sup> and the good news is that this skill can also be enhanced through practice and training.

### Bricolage

Entrepreneurs often lack resources. As a result, they either seek resources from others to provide the "slack" necessary to experiment and generate entrepreneurial opportunities or they engage in bricolage. By *bricolage* we mean that some entrepreneurs make "do by applying combinations of the resources at hand to new problems and opportunities." This involves taking existing resources (those at hand) and experimenting, tinkering, repackaging, and/or reframing them so they can be used in a way for which they were not originally

bricolage Entrepreneurs
making do by applying
combinations of the
resources at hand to new
problems and
opportunities

cause psychological and physical problems. That is, having some work life balance can be beneficial to the individual both as an entrepreneur and as a human being.

Paranoia can also lead to fear, such as fear of failure. Fear of failure can constrict thinking and lead to inaction and inaction can make the entrepreneur's firm more vulnerable. One entrepreneur noted that if he was fearful then his business would never have got off the ground. Indeed, perhaps entrepreneurs are already so paranoid that any more paranoia may push them over the edge of what is healthy. They may be so paranoid about the business that their words and actions begin to discourage employees and customers. That is, paranoia that your employees or customers are out to get you may lead to them leaving and creating an actual (rather than an imagined) threat to the business. Indeed, for the entrepreneur's business to grow and achieve success, he or she may need to put some faith in the organization's employees and customers.

# "CRITICAL EVALUATION" RATHER THAN PARANOIA

Perhaps the term *paranoia* is too loaded, and therefore care must be taken in advising entrepreneurs that they need to become more paranoid. But Andrew Grove's point is well taken. It might be better to talk about critical evaluation or critical analysis, which means to look at everything (suggests Stephen Markoitz, director

of governmental and political relations of a small business association). He suggests that if the entrepreneur is paranoid then he or she is unable to look at everything. That is, the entrepreneur may be particularly good at noticing threats but miss opportunities. (But is it ever possible to see and evaluate everything?)

Whatever it is called, the point is that entrepreneurs are likely to keep worrying about their business, keep trying to attend to both threats and opportunities, and think constantly about how to enable their business to succeed.

#### **ADVICE TO AN ENTREPRENEUR**

A friend who has just become an entrepreneur has read the above article and comes to you for advice:

- 1. I worry about my business; does that mean I am paranoid?
- 2. What are the benefits of paranoia and what are the costs?
- 3. How do I know I have the right level of paranoia to effectively run the business and not put me in the hospital with a stomach ulcer?
- 4. Won't forcing myself to be more paranoid take the fun out of being an entrepreneur?

Source: Mark Henricks, "How Smart Entrepreneurs Harness the Power of Paranoia," *Entrepreneur magazine, March 1997*, www.entrepreneur.com.

designed or conceived.<sup>7</sup> From this process of "making do," entrepreneurs can create opportunities. Baker and Nelson (2005: 341-42) offer the following example of bricolage.

Tim Grayson was a farmer whose land was crisscrossed by abandoned coal mines. He knew that the tunnels—a nuisance to farmers because of their tendency to collapse, causing mammoth sinkholes in fields—also contained large quantities of methane. Methane is another nuisance, a toxic greenhouse gas that poisons miners and persists in abandoned mines for generations. Grayson and a partner drilled a hole from Grayson's property to an abandoned mine shaft, then acquired a used diesel generator from a local factory and crudely retrofitted it to burn methane. During the conversion process, Grayson was repeatedly blown off his feet when the odorless, colorless gas exploded. His bricolage produced electricity, most of which he sold to the local utility company using scavenged switchgear. Because Grayson's generator also produced considerable waste heat, he built a greenhouse for hydroponic tomatoes, which he heated with water from the generator's cooling system. He also used electricity generated during off-peak hours to power special lamps to speed plant growth. With the availability of a greenhouse full of trenches of nutrient-rich water that were heated "for free," Grayson realized he might be able to raise tilapia, a tropical delicacy increasingly popular in the United States. He introduced the fish to the waters that bathed the tomato roots and used the fish waste as fertilizer. Finally, with abundant methane still at hand, Grayson began selling excess methane to a natural gas company. As you can see from this example, bricolage is a resourceful way of thinking and behaving that represents an important source of entrepreneurial opportunities.

#### Effectuation

As potential business leaders, you are trained to think rationally and perhaps admonished if you do not. This admonishment might be appropriate given the nature of the task, but it appears that there is an alternate way of thinking that entrepreneurs sometimes use, especially when thinking about opportunities. Professor Saras Sarasvathy (from Darden, University of Virginia) has found that entrepreneurs do not always think through a problem in a way that starts with a desired outcome and focuses on the means to generate that outcome. Such a process is referred to as a causal process. But, entrepreneurs sometimes use an effectuation process, which means they take what they have (who they are, what they know, and whom they know) and select among possible outcomes. Think about cooking dinner tonight. You could select a dinner that you would like, find a recipe that lists the ingredients and the order of the tasks required to cook the meal, and then go shopping for the ingredients (assuming you know what is in the pantry at home). This way of thinking about the problem of fixing dinner involves the process of causation. Another way to approach the problem of fixing dinner is to go home, see what food is in the pantry (and the pots and pans and equipment in the cupboards), and imagine all the dinners that are possible using some combination of these ingredients, select one, and start cooking. This way of cooking is consistent with the effectuation logic. That is, effectuation starts with what is available and thinking about the many possible alternatives that can be generated.

To continue with the cooking example, but applying it to entrepreneurship, Professor Sarasvathy offered a thought experiment to illustrate the distinction between causation and effectuation. The thought experiment starts with an imaginary Indian restaurant called "Curryin-a-Hurry". Following a causation process, the entrepreneur could follow the textbook. The classic textbook is *Marketing Management* by Philip Kotler (1991), which details the 11 necessary sequence of steps to be followed to bring a new product or service to market. In short, this process involves the stages of segmenting, targeting, and positioning. What does this mean to the entrepreneur of Curry-in-a-Hurry? She can begin the process by thinking about the universe of potential customers in her city. She can then segment the market based on demographics (e.g., age and gender), socioeconomic status of neighborhoods, family income, and dining patterns. The entrepreneur can then survey a random sample of people in the different segments and use that information to select a target market, for example, families in a wealthy neighborhood who eat at restaurants twice a week. Having selected the target market, she can then make decisions about the location and décor of the restaurant, the food and the price for the menu, and other operational issues. As you can imagine, this process would take considerable time and some financial resources; and this is before she is able to sell anything.

However, let's continue the thought experiment but this time use the effectuation process. Rather than assume that there is an existing market and she has the resources to invest in finding out what would be the ideal restaurant for that market (as done through causation), the entrepreneur would start by taking stock of what resources she has available (i.e., who she is, what she knows, and who she knows) and think about the possible things she could do with different combinations of those resources. She could try and secure a partner-ship with an established restaurateur or she would approach a local Indian restaurant and

causal process A process that starts with a desired outcome and focuses on the means to generate that

outcome

effectuation process A process that starts with what one has (who they are, what they know, and whom they know) and selects among possible outcomes

iS. Sarasvathy, "Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency," *Academy of Management Review* vol. 26 (2001), p. 245.

ask them if she could set up a stand to sell her Indian specialties—perhaps specialties that complement the restaurant's existing menu. Deciding what is offered might be made "on the fly" as information becomes available. Because the costs are low she can experiment with different foods and different approaches. This experimentation provides information about what the market wants and is willing to pay for (and what the market does not want) and brings in some money while doing so.

Another option might be for the entrepreneur to take stock of who she knows and, as a result, take food to a friend's office so his colleagues can try the assortment of items. This action, and feedback, may lead the entrepreneur to start a food deliver business. As the delivery business grows, the entrepreneur learns about people's tastes and hones her menu, and more and more people learn about Curry-in-a-Hurry. The entrepreneur now has the knowledge and the customer base (and the cash flow) to open up a restaurant. After opening the restaurant, the entrepreneur continues to learn and the world continues to change, and both may present opportunities to change the nature of the business and/or create a new business. Professor Sarasvathy offers a number of possibilities including: (1) Curry Favors—a catering and party planning business, (2) School of Curry—a school that teaches about Indian cooking, culture, and music, and (3) Curryland Travels—a business offering themed tours of India and the Far-East. Okay, these examples are a bit fanciful. But fanciful is okay. Fanciful engages uncertainty and involves creativity, play, and experimentation; all of which are elements important to entrepreneurship.

We are not suggesting that effectuation is a superior thought process to causation; rather, it represents a way that entrepreneurs sometimes think. Effectuation . . . helps entrepreneurs think in an environment of high uncertainty. Indeed organizations today operate in complex and dynamic environments that are increasingly characterized by rapid, substantial, and discontinuous change. <sup>11</sup> Given the nature of this type of environment, most managers of firms need to take on an *entrepreneurial mind-set* so that their firms can successfully adapt to environmental changes. <sup>12</sup> This *entrepreneurial mind-set* involves the ability to rapidly sense, act, and mobilize, even under uncertain conditions. <sup>13</sup> In developing an entrepreneurial mind-set, individuals must attempt to make sense of opportunities in the context of changing goals, constantly questioning the "dominant logic" in the context of a changing environment and revisiting "deceptively simple questions" about what is thought to be true about markets and the firm. For example, effective entrepreneurs are thought to continuously "rethink current strategic actions, organization structure, communications systems, corporate culture, asset deployment, investment strategies, in short every aspect of a firm's operation and long-term health." <sup>14</sup>

To be good at these tasks, individuals must develop a *cognitive adaptability*. Mike Haynie, a retired major of the U.S. Air Force and now professor at Syracuse University, and me (Dean Shepherd from Indiana University) have developed a number of models of cognitive adaptability and a survey for capturing it, to which we now turn.<sup>15</sup>

### Cognitive Adaptability

Cognitive adaptability describes the extent to which entrepreneurs are dynamic, flexible, self-regulating, and engaged in the process of generating multiple decision frameworks focused on sensing and processing changes in their environments and then acting on them. Decision frameworks are organized on knowledge about people and situations that are used to help someone make sense of what is going on. <sup>16</sup> Cognitive adaptability is reflected in an entrepreneur's metacognitive awareness, that is, the ability to reflect upon, understand, and control one's thinking and learning. <sup>17</sup> Specifically, metacognition describes a higher-order cognitive process that serves to organize what individuals know and recognize about themselves,

#### entrepreneurial mind-set

Involves the ability to rapidly sense, act, and mobilize, even under uncertain conditions

#### cognitive adaptability

Describes the extent to which entrepreneurs are dynamic, flexible, self-regulating, and engaged in the process of generating multiple decision frameworks focused on sensing and processing changes in their environments and then acting on them

significance of new information.

tasks, situations, and their environments to promote effective and *adaptable* cognitive functioning in the face of feedback from complex and dynamic environments.<sup>18</sup>

How cognitively adaptable are you? Try the survey in Table 1.1 and compare yourself to some of your classmates. A higher score means that you are more metacognitively aware, and this in turn helps provide cognitive adaptability. Regardless of your score, the good news is that you can learn to be more cognitively adaptable. This ability will serve you well in most

## **TABLE 1.1** Mike Haynie's "Measure of Adaptive Cognition"

<b>How Cognitively Flexible Are You?</b> On a scale of 1 to 10, where 1 is "not very much like me" and 10 is "very much like me," how do you rate yourself on the following statements?		
Goal Orientation		
I often define goals for myself.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
I understand how accomplishment of a task relates to my goals.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
l set specific goals before l begin a task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
l ask myself how well I've accomplished my goals once I've finished.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
When performing a task, I frequently assess my progress against my objectives.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
Metacognitive Knowledge		
think of several ways to solve a problem and choose the best one.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
challenge my own assumptions about a task before I begin.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
think about how others may react to my actions.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
find myself automatically employing strategies that have worked in the past.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
perform best when I already nave knowledge of the task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
create my own examples to make information more meaningful.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
try to use strategies that have worked in the past.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
ask myself questions about the task before I begin.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
try to translate new information into my own words.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
I try to break problems down into smaller components.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me	
I focus on the meaning and	Not very much—1 2 3 4 5 6 7 8 9 10—Very much	

like me

like me

Metacognitive Experience	
I think about what I really need to accomplish before I begin a task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I use different strategies depending on the situation.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I organize my time to best accomplish my goals.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I am good at organizing information.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I know what kind of information is most important to consider when faced with a problem.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I consciously focus my attention on important information.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
My "gut" tells me when a given strategy I use will be most effective.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I depend on my intuition to help me formulate strategies.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
Metacognitive Choice	
I ask myself if I have considered all the options when solving a problem.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I ask myself if there was an easier way to do things after I finish a task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I ask myself if I have considered all the options after I solve a problem.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I re-evaluate my assumptions when I get confused.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I ask myself if I have learned as much as I could have after I finish the task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
Monitoring	
I periodically review to help me understand important relationships.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I stop and go back over information that is not clear.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I am aware of what strategies I use when engaged in a given task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I find myself analyzing the usefulness of a given strategy while engaged in a given task.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I find myself pausing regularly to check my comprehension of the problem or situation at hand.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me
I ask myself questions about how well I am doing while I am performing a novel task. I stop and re-read when I get confused.	Not very much—1 2 3 4 5 6 7 8 9 10—Very much like me

Result—A higher score means that you are more aware of the way that you think about how you make decisions and are therefore more likely to be cognitively flexible.

Source: M. Haynie and D. Shepherd, "A Measure of Adaptive Cognition for Entrepreneurship Research," *Entrepreneurship, Theory and Practice*, vol. 33, no. 3, 2009, 695–714.

comprehension
questions Questions
designed to increase
entrepreneurs'
understanding of the
nature of the environment

connection tasks Tasks
designed to stimulate
entrepreneurs to think
about the current
situation in terms of
similarities to and
differences from
situations previously faced
and solved

strategic tasks Tasks designed to stimulate entrepreneurs to think about which strategies are appropriate for solving the problem (and why) or pursuing the opportunity (and how)

reflection tasks Tasks
designed to stimulate
entrepreneurs to think
about their understanding
and feelings as they
progress through the
entrepreneurial process

new tasks, but particularly when pursuing a new entry and managing a firm in an uncertain environment. Put simply, it requires us to "think about thinking which requires, and helps provide, knowledge and control over our thinking and learning activities—it requires us to be self-aware, think aloud, reflect, be strategic, plan, have a plan in mind, know what to know, and self-monitor.<sup>19</sup> We can achieve this by asking ourselves a series of questions that relate to (1) comprehension, (2) connection, (3) strategy, and (4) reflection.<sup>20</sup>

- 1. Comprehension questions are designed to increase entrepreneurs' understanding of the nature of the environment before they begin to address an entrepreneurial challenge, whether it be a change in the environment or the assessment of a potential opportunity. Understanding arises from recognition that a problem or opportunity exists, the nature of that situation, and its implications. In general, the questions that stimulate individuals to think about comprehension include: What is the problem all about? What is the question? What are the meanings of the key concepts? Specific to entrepreneurs, the questions are more likely to include: What is this market all about? What is this technology all about? What do we want to achieve by creating this new firm? What are the key elements to effectively pursuing this opportunity?
- 2. Connection tasks are designed to stimulate entrepreneurs to think about the current situation in terms of similarities to and differences from situations previously faced and solved. In other words, these tasks prompt the entrepreneur to tap into his or her knowledge and experience without overgeneralizing. Generally, connection tasks focus on questions like: How is this problem similar to problems I have already solved? Why? How is this problem different from what I have already solved? Why? Specific to entrepreneurs, the questions are more likely to include: How is this new environment similar to others in which I have operated? How is it different? How is this new organization similar to the established organizations I have managed? How is it different?
- 3. Strategic tasks are designed to stimulate entrepreneurs to think about which strategies are appropriate for solving the problem (and why) or pursuing the opportunity (and how). These tasks prompt them to think about the what, why, and how of their approach to the situation. Generally, these questions include: What strategy/tactic/principle can I use to solve this problem? Why is this strategy/tactic/principle the most appropriate one? How can I organize the information to solve the problem? How can I implement the plan? Specific to entrepreneurs, the questions are likely to include: What changes to strategic position, organizational structure, and culture will help us manage our newness? How can the implementation of this strategy be made feasible?
- 4. Reflection tasks are designed to stimulate entrepreneurs to think about their understanding and feelings as they progress through the entrepreneurial process. These tasks prompt entrepreneurs to generate their own feedback (create a feedback loop in their solution process) to provide the opportunity to change. Generally, reflection questions include: What am I doing? Does it make sense? What difficulties am I facing? How do I feel? How can I verify the solution? Can I use another approach for solving the task? Specific to the entrepreneurial context, entrepreneurs might ask: What difficulties will we have in convincing our stakeholders? Is there a better way to implement our strategy? How will we know success if we see it?

Entrepreneurs who are able to increase cognitive adaptability have an improved ability to (1) adapt to new situations—that is, it provides a basis by which a person's prior experience and knowledge affect learning or problem solving in a new situation; (2) be creative—that is, it can lead to original and adaptive ideas, solutions, or insights; and

(3) communicate one's reasoning behind a particular response.<sup>21</sup> We hope that this section of the book has provided you not only a deeper understanding of how entrepreneurs can think and act with great flexibility but also an awareness of some techniques for incorporating cognitive adaptability in your life.

We have discussed how entrepreneurs make decisions in uncertain environments and how one might develop an ability to be more cognitively flexible. It is important to note that entrepreneurs not only think but they also intend to act.

## THE INTENTION TO ACT ENTREPRENEURIALLY

Entrepreneurial action is most often intentional. Entrepreneurs intend to pursue certain opportunities, enter new markets, and offer new products—and this is rarely the process of unintentional behavior. Intentions capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try and how much of an effort they are planning to exert to perform the behavior. As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance.<sup>22</sup> Individuals have stronger intentions to act when taking action is perceived to be *feasible* and *desirable*. *Entrepreneurial intentions* can be explained in the same way.

The perception of feasibility has much to do with an entrepreneurial self-efficacy. *Entrepreneur's self-efficacy* refers to the conviction that one can successfully execute the behavior required; people who believe they have the capacity to perform (high self-efficacy) tend to perform well. Thus, it reflects the perception of a personal capability to do a particular job or set of tasks. High self-efficacy leads to increased initiative and persistence and thus improved performance; low self-efficacy reduces effort and thus performance. Indeed, people with high self-efficacy think differently and behave differently than people with low self-efficacy.<sup>23</sup> Self-efficacy affects the person's choice of action and the amount of effort exerted. Entrepreneurship scholars have found that self-efficacy is positively associated with the creation of a new independent organization.<sup>24</sup>

Not only must an individual perceive entrepreneurial action as feasible for entrepreneurial intention to be high, the individual must also perceive this course of action as desirable. *Perceived desirability* refers to an individual's attitude toward entrepreneurial action—the degree to which he or she has a favorable or unfavorable evaluation of the potential entrepreneurial outcomes. <sup>25</sup> For example, creative actions are not likely to emerge unless they produce personal rewards that are perceived as relatively more desirable than more familiar behaviors. <sup>26</sup>

Therefore, the higher the perceived desirability and feasibility, the stronger the intention to act entrepreneurially. We next investigate the background characteristics of entrepreneurs to understand why some individuals are more likely to engage in entrepreneurship than other individuals. That is, we examine how background characteristics provide an indication of whether certain individuals are more or less likely to perceive entrepreneurial action as feasible and/or desirable and therefore whether they are more or less likely to intend to be entrepreneurs.

## ENTREPRENEUR BACKGROUND AND CHARACTERISTICS Education

Although some may feel that entrepreneurs are less educated than the general population, research findings indicate that this is clearly not the case. Education is important in the upbringing of the entrepreneur. Its importance is reflected not only in the level of education

entrepreneurial
intentions The
motivational factors that
influence individuals to
pursue entrepreneurial
outcomes
entrepreneurial

self-efficacy The conviction that one can successfully execute the entrepreneurial process

perceived desirability The degree to which an individual has a favorable or unfavorable evaluation of the potential entrepreneurial outcomes

obtained but also in the fact that it continues to play a major role in helping entrepreneurs cope with the problems they confront. Although a formal education is not necessary for starting a new business—as is reflected in the success of such high school dropouts as Andrew Carnegie, William Durant, Henry Ford, and William Lear-it does provide a good background, particularly when it is related to the field of the venture. For example, entrepreneurs have cited an educational need in the areas of finance, strategic planning, marketing (particularly distribution), and management. The ability to communicate clearly with both the written and the spoken word is also important in any entrepreneurial activity.

Even general education is valuable because it facilitates the integration and accumulation of new knowledge, providing individuals with a larger opportunity set (i.e., a broader base of knowledge casts a wider net for the discovery or generation of potential opportunities), and assists entrepreneurs in adapting to new situations.<sup>27</sup> The general education (and experiences) of an entrepreneur can provide knowledge, skills, and problem-solving abilities that are transferable across many different situations. Indeed, it has been found that while education has a positive influence on the chance that a person will discover new opportunities, it does not necessarily determine whether he will create a new business to exploit the discovered opportunity.<sup>28</sup> To the extent that individuals believe that their education has made entrepreneurial action more feasible, they are more likely to become entrepreneurs.

## Age

The relationship of age to the entrepreneurial career process also has been carefully researched.<sup>29</sup> In evaluating these results, it is important to differentiate between entrepreneurial age (the age of the entrepreneur reflected in his or her experience) and chronological age (years since birth). As discussed in the next section, entrepreneurial experience is one of the best predictors of success, particularly when the new venture is in the same field as the previous business experience.

In terms of chronological age, most entrepreneurs initiate their entrepreneurial careers between the ages of 22 and 45. A career can be initiated before or after these ages, as long as the entrepreneur has the necessary experience and financial support, and the high energy level needed to launch and manage a new venture successfully. Also, there are milestone ages every five years (25, 30, 35, 40, and 45) when an individual is more inclined to start an entrepreneurial career. As one entrepreneur succinctly stated, "I felt it was now or never in terms of starting a new venture when I approached 30." Generally, male entrepreneurs tend to start their first significant venture in their early 30s, while women entrepreneurs tend to do so in their middle 30s. However, an entrepreneurial career is quite popular later in life when the children have left home, there are fewer financial concerns, and individuals start to think about what they would really like to do with the rest of their lives.<sup>30</sup>

## Work History

Work history can influence the decision to launch a new entrepreneurial venture, but it also plays a role in the growth and eventual success of the new venture. While dissatisfaction

work history The past work experience of an individual

with various aspects of one's job—such as a lack of challenge or promotional opportunities, as well as frustration and boredom—often motivates the launching of a new venture, previous technical and industry experience is important once the decision to launch has been made. Experience in the following areas is particularly important: financing, product or service development, manufacturing, and the development of distribution channels.

As the venture becomes established and starts growing, managerial experience and skills become increasingly important. Although most ventures start with few (if any) employees, as the number of employees increases, the entrepreneur's managerial skills come more and more into play. In addition, entrepreneurial experiences, such as the startup process, making decisions under high levels of uncertainty, building a culture from "scratch," raising venture capital, and managing high growth, are also important. Most entrepreneurs indicate that their most significant venture was not their first one. Throughout their entrepreneurial careers, they are exposed to many new venture opportunities and gather ideas for many more new ventures.

Finally, previous startup experience can provide entrepreneurs with expertise in running an independent business as well as benchmarks for judging the relevance of information, which can lead to an understanding of the "real" value of new entry opportunities, speed up the business creation process, and enhance performance.<sup>31</sup> Previous startup experience is a relatively good predictor of starting subsequent businesses.<sup>32</sup> To the extent that startup experience provides entrepreneurs with a greater belief in their ability to successfully achieve entrepreneurial outcomes, this increased perceived feasibility will strengthen entrepreneurial intentions.

## ROLE MODELS AND SUPPORT SYSTEMS

One of the most important factors influencing entrepreneurs in their career path is their choice of a role model.<sup>33</sup> Role models can be parents, brothers or sisters, other relatives, or other entrepreneurs. Successful entrepreneurs frequently are viewed as catalysts by potential entrepreneurs. As one entrepreneur succinctly stated, "After evaluating Ted and his success as an entrepreneur, I knew I was much smarter and could do a better job. So I started my own business." In this way, role models can provide important signals that entrepreneurship is feasible for them.

Role models can also serve in a supportive capacity as mentors during and after the launch of a new venture. An entrepreneur needs a strong support and advisory system in every phase of the new venture. This support system is perhaps most crucial during the startup phase, as it provides information, advice, and guidance on such matters as organizational structure, obtaining needed financial resources, and marketing. Since entrepreneurship is a social role embedded in a social context, it is important that an entrepreneur establish connections and eventually networks early in the new venture formation process.

As initial contacts and connections expand, they form a network with similar properties prevalent in a social network—density (the extensiveness of ties between the two individuals) and centrality (the total distance of the entrepreneur to all other individuals and the total number of individuals in the network). The strength of the ties between the entrepreneur and any individual in the network is dependent upon the frequency, level, and reciprocity of the relationship. The more frequent, in-depth, and mutually beneficial a relationship, the stronger and more durable the network between the entrepreneur and the individual.<sup>34</sup> Although most networks are not formally organized, an informal network for moral and professional support still greatly benefits the entrepreneur.

## Moral-Support Network

It is important for each entrepreneur to establish a moral-support network of family and friends—a cheering squad. This cheering squad plays a critical role during the many difficult and lonely times that occur throughout the entrepreneurial process. Most entrepreneurs

role models Individuals whose example an entrepreneur can aspire to and copy

moral-support network Individuals who give

psychological support to an entrepreneur

indicate that their spouses are their biggest supporters and allow them to devote the excessive amounts of time necessary to the new venture.

Friends also play key roles in a moral-support network. Not only can friends provide advice that is often more honest than that received from other sources, but they also provide encouragement, understanding, and even assistance. Entrepreneurs can confide in friends without fear of criticism. Finally, relatives (children, parents, grandparents, aunts, and uncles) also can be strong sources of moral support, particularly if they are also entrepreneurs. As one entrepreneur stated, "The total family support I received was the key to my success. Having an understanding cheering squad giving me encouragement allowed me to persist through the many difficulties and problems."

## Professional-Support Network

In addition to encouragement, the entrepreneur needs advice and counsel throughout the establishment of the new venture. This advice can be obtained from a mentor, business associates, trade associations, or personal affiliations—all members of a *professional-support* network.

Most entrepreneurs indicate that they have mentors. How does one find a mentor? This task sounds much more difficult than it really is. Since a mentor is a coach, a sounding board, and an advocate—someone with whom the entrepreneur can share both problems and successes—the individual selected needs to be an expert in the field. An entrepreneur can start the "mentor-finding process" by preparing a list of experts in various fields—such as in the fundamental business activities of finance, marketing, accounting, law, or management—who can provide the practical "how-to" advice needed. From this list, an individual who can offer the most assistance should be identified and contacted. If the selected individual is willing to act as a mentor, he or she should be periodically apprised of the progress of the business so that a relationship can gradually develop.

Another good source of advice can be cultivated by establishing a network of business associates. This group can be composed of self-employed individuals who have experienced starting a business; clients or buyers of the venture's product or service; experts such as consultants, lawyers, or accountants; and the venture's suppliers. Clients or buyers are a particularly important group to cultivate. This group represents the source of revenue to the venture and is the best provider of word-of-mouth advertising. There is nothing better than word-of-mouth advertising from satisfied customers to help establish a winning business reputation and promote goodwill.

Suppliers are another important component in a professional-support network. A new venture needs to establish a solid track record with suppliers to build a good relationship and to ensure the adequate availability of materials and other supplies. Suppliers also can provide good information on the nature of trends, as well as competition, in the industry.

In addition to mentors and business associates, trade associations can offer an excellent professional-support network. Trade association members can help keep the new venture competitive. Trade associations keep up with new developments and can provide overall industry data.

Finally, personal affiliations of the entrepreneur also can be a valuable part of a professional-support network. Affiliations developed with individuals through shared hobbies, participation in sporting events, clubs, civic involvements, and school alumni groups are excellent potential sources of referrals, advice, and information. Each entrepreneur needs to establish both moral and professional-support networks. These contacts provide confidence, support, advice, and information. As one entrepreneur stated, "In your

own business, you are all alone. There is a definite need to establish support groups to share problems with and to obtain information and overall support for the new venture."

Therefore, it is important to recognize that entrepreneurial activity is embedded in networks of interpersonal relationships. These networks are defined by a set of actors (individuals and organizations) and a set of linkages between them, and they provide individuals access to a variety of resources necessary for entrepreneurial outcomes.<sup>35</sup> These resources may assist in efforts to discover and exploit opportunities, as well as in the creation of new independent organizations.<sup>36</sup> The trust embedded in some of these networks provides potential entrepreneurs the opportunity to access highly valuable resources. For example, business networks are composed of independent firms linked by common interests, friendship, and trust and are particularly important in facilitating the transfer of difficult-to-codify, knowledge-intensive skills that are expensive to obtain in other ways.<sup>37</sup> These networks also create opportunities for exchanging goods and services that are difficult to enforce through contractual arrangements, which facilitates the pursuit of opportunities.<sup>38</sup> To the extent that a network provides an individual greater belief in his or her ability to access resources critical to the successful achievement of entrepreneurial outcomes, this increased perceived feasibility will strengthen entrepreneurial intentions. This can include intentions for sustainable entrepreneurship.

## SUSTAINABLE ENTREPRENEURSHIP

Sustainable development is perhaps the most important issue of our time, and entrepreneurship can have a positive impact on this issue. That is, entrepreneurial action can help us both sustain and develop. Specifically, *sustainable entrepreneurship* is focused on preserving nature, life support, and community (sustainability) in the pursuit of perceived opportunities to bring future products, processes, and services into existence for gain (entrepreneurial action) where gain is broadly construed to include economic and noneconomic benefits to individuals, the economy, and society (development).<sup>39</sup>

Based on the McMullen-Shepherd model, we know that entrepreneurial action is driven by knowledge and motivation. Those with greater knowledge of the natural environment—the physical world, including the earth, biodiversity, and ecosystems<sup>40</sup>—are more likely to notice changes in that environment that form opportunity beliefs than those with less knowledge. However, we cannot underestimate the role of entrepreneurial knowledge of markets, technologies, and/or opportunity exploitation; without entrepreneurial knowledge, opportunities for sustainable development are unlikely to become a reality.

For entrepreneurial actions that preserve nature to be considered sustainable entrepreneurship, they must also develop gains for the entrepreneur, others, and/or society. It has long been accepted that entrepreneurs can generate economic wealth for themselves, but their impact on development can be far greater. They can generate gains for others that are economic, environmental, and social, including employment opportunities, improved access to quality/valuable goods, and revenues for the government(s). The environmental gain generated for others could be reduced air pollution, improved air quality, improved drinkingwater quality, and other enhanced living conditions. The social gains include improved child survival rates, longer life expectancy, superior education, equal opportunity, and so on. For example, individuals who were knowledgeable about cooking practices in developing countries were able to recognize opportunities for hybrid stoves that substantially reduced particle pollutants in households but were consistent with traditional recipes. It is not just the natural environment that can be sustained, though; communities also need to be preserved. Indeed, knowledge of indigenous groups' cultures has led to the pursuit of opportunities that serve to sustain these cultures.

#### sustainable entrepreneurship

Entrepreneurship focused on preserving nature, life support, and community (sustainability) in the pursuit of perceived opportunities to bring future products, processes, and services into existence for gain (entrepreneurial action) where gain is broadly construed to include economic and noneconomic benefits to individuals, the economy, and society (development)



## AN ORGANIZATION'S CODE OF ETHICS

There has been a litany of financial scandals, which have led to increased action by governments in an attempt to regulate against such actions. But companies themselves are placing higher priority on ethical behavior, and that goes for the organization's employees. One way that they have done this is to create a code of ethics for all employees (indeed, many schools in universities have created a student code of ethics).

There are some distinct advantages from creating and implementing an employee code of ethics. The first is that the code makes everyone within the organization aware of what represents ethical behavior (and, through deduction, what is unethical behavior). To the extent that employees understand what ethical behavior is, they are more likely to ensure that their behavior remains consistent with that expectation. But it should be noted that a code of ethics is not solely a formal statement delineating ethical from nonethical behavior but also an important positive statement about the beliefs and values of the organization. The code is part of a broader system, such as the following:

Leaders Are the "Walking Talking" **Embodiment of the Ethical Values of** the Organization: Having something in writing is good but not sufficient to encourage ethical behavior. Employees often take their cues from the organization's leaders. That is, they model the behaviors of their leaders, whether that behavior is ethical or unethical. Therefore, everyone within the organization needs to abide by the code of ethics, especially its managers. For example, even a simple transgression of the code by a manager can have a substantially negative impact on the code's effectiveness with the rest of those within the organization—they see a distinction between what is said should be done and the way things are really done within the organization. Of course, this completely undermines the code of ethics. Therefore, if managers do not always follow the code of ethics, they should not be surprised if the employees do not follow the code either.

## Ethics Is One of the Organization's

**Core Values:** Organizations known for the ethical actions of their managers and employees have ethics as one of its core values—it is part of the organization's identity and reflected in the organizational culture. Being

at the core of the organization's values, members of the organization realize that *ethical behavior* is "what we do around here." Indeed, this is reflected in hiring practices—organizations want to hire managers and employees who already share their core values including ethics. In one study (reported in this news article), 58 percent of managers indicated that what impressed them the most were candidates who displayed honesty and integrity.

# Creating a Safe Environment for Employees to Voice Concerns: Part of creating an ethical climate within the organization

creating an ethical climate within the organization involves creating a culture where employees feel psychologically safe to voice concerns about potentially unethical behavior. If they feel that they can voice concerns, then the management is able to become aware of ethical transgressions and fix them before the event blows out of control and/or before the ethical culture of the organization is destroyed. Both have a considerable negative impact on the organization. The key for managers is to notice and respond early to ethical issues, and one critical way for managers to notice these transgressions is to encourage employees to voice their concerns. Employees have to feel that in voicing their concerns they are not going to be penalized.

Once aware of ethical transgressions, no matter how small, managers must act. Action reinforces the code of ethics; inaction undermines it.

One way to ensure that organizational members understand and "buy into the code" is to involve them in the process of creating the code.

By implementing a code of ethics, having it reflected in the organization's core values, and reinforcing the code through words and actions, the organization can ensure ethical behavior, which is a critical basis of an entrepreneurial firm.

Source: Max Messmer, "Does Your Company Have a Code of Ethics?" *Strategic Finance*, April 2003.

We recognize that our explanation of sustainable entrepreneurship could be considered highly idealistic. However, it is consistent with thinking of entrepreneurial action as a tool (e.g., a hammer) that can be used for good (e.g., to build a community center) or for bad (e.g., as a weapon for harming others). Indeed, in a study of 83 entrepreneurs, the researchers found that while most entrepreneurs had positive attitudes toward the natural environment, under some conditions, they disengaged these values to decide to exploit an opportunity that caused harm to the natural environment. We do believe, however, that there are many people in the world today who are motivated to use the tool of entrepreneurial action to sustain the natural environment and communities and develop gains for others. Perhaps you are one of these people.

## IN REVIEW

#### SUMMARY

Entrepreneurship involves action. Before action, individuals use their knowledge and motivation to overcome ignorance to form a belief that there exists an opportunity for someone. They then need to determine if this opportunity for someone matches their knowledge and motivation—is it an opportunity for them? Individuals engaging in the entrepreneurial task think differently from those engaged in other tasks, such as managerial tasks. The process requires that the individual and the firm have an entrepreneurial mind-set. We started our discussion of this mind-set with the concepts of thinking structurally and effectually, which challenges traditional notions of the way that entrepreneurs think about their tasks.

By thinking structurally and not being distracted by superficial features, entrepreneurs are able to identify opportunities by making connections between a technology and a market that may not be obvious. Furthermore, although entrepreneurs think about some tasks in a causal way, they also are likely to think about some tasks effectually (and some entrepreneurs more so than other entrepreneurs). Rather than starting with the desired outcome in mind and then focusing on the means to achieving that outcome, entrepreneurs sometimes approach tasks by looking at what they have—their means—and selecting among possible outcomes. Who is to say whether the "causal chef" who starts with a menu or the "effectual chef" who starts with what is in the cupboard produces the best meal? But we can say that some expert entrepreneurs think effectually about opportunities. Thinking effectually helps entrepreneurs make decisions in uncertain environments. Entrepreneurs are often situated in resource-scarce environments but are able to make do with (and recombine) the resources they have at hand to create opportunities.

The external environment can also have an impact on performance and therefore the entrepreneur needs to be able to adapt to changes in the environment. In this chapter, we introduced the notion of cognitive flexibility and emphasized that it is something that can be measured and learned. By asking questions related to comprehension, connection, strategy, and reflection, entrepreneurs can maintain an awareness of their thought process and in doing so develop greater cognitive adaptability.

Individuals become entrepreneurs because they intend to do so. The stronger the intention to be an entrepreneur, the more likely it is that it will happen. Intentions become stronger as individuals perceive an entrepreneurial career as feasible and desirable. These perceptions of feasibility and desirability are influenced by one's background and characteristics, such as education, personal values, age and work history, role models and support systems, and networks.

The outcome of entrepreneurial action can be economic gain for the entrepreneur and his or her family. But this may not be the only motivation for the intention to be an entrepreneur. Some individuals exploit opportunities that sustain (the natural environment and/or communities) and generate gains for others. We call this process sustainable entrepreneurship.

## RESEARCH TASKS



- 1. Speak to people from five different countries and ask what entrepreneurship means to them and how their national culture helps and/or hinders entrepreneurship.
- 2. Ask an entrepreneur about his or her business today and ask him or her to describe the decisions and series of events that led the business from startup to its current form. Would you classify this process as causal, effectual, or both?
- 3. Ask two entrepreneurs and five students (not in this class) to fill out the Haynie-Shepherd "Measure of Adaptive Cognition" (see Table 1.1). How do you rate relative to the entrepreneurs? Relative to your fellow students?
- 4. When conducting a homework exercise for another class (especially a case analysis), ask yourself comprehension questions, connection questions, strategy questions, and reflection questions. What impact did this have on the outcome of the task?
- 5. What impact does entrepreneurship have on your natural environment? What impact does it have on sustaining local communities? Use data to back up your arguments.

### CLASS DISCUSSION



- 1. List the content that you believe is necessary for an entrepreneurship course. Be prepared to justify your answer.
- 2. Do you really think that entrepreneurs think effectually? What about yourself—do you sometimes think effectually? In what ways is it good? Then why are we taught in business classes to always think causally? Are there particular problems or tasks in which thinking causally is likely to be superior to effectuation? When might effectuation be superior to causal thinking?
- 3. To be cognitively flexible seems to require that the entrepreneur continually question himself or herself. Doesn't that create doubt that can be seen by employees and financiers such that success actually becomes more difficult to achieve? Besides, although flexibility is a good thing, if the firm keeps changing based on minor changes in the environment, the buyers are going to become confused about the nature of the firm. Is adaptation always a good thing?
- 4. Do you believe that sustainable development should be part of an entrepreneurship course, or did the textbook authors just include a section on it to be "politically correct"?
- 5. Provide some examples of the mental leaps that entrepreneurs have taken.
- 6. What excites you about being an entrepreneur? What are your major concerns?

#### SELECTED READINGS

**An, Wenwen; Xinglu Zhao; Zhi Cao; Jianqi Zhang; and Heng Liu.** (2018). How Bricolage Drives Corporate Entrepreneurship: The Roles of Opportunity Identification and Learning Orientation. *Journal of Product Innovation Management*, vol. 35, no. 1, pp. 49–65.

While most studies have viewed bricolage as a tool to overcome resource constraints in the context of new ventures, few of them have directly investigated the effects of bricolage to identify new entrepreneurial opportunities in the context of incumbent firms. Drawing upon a subjectivist view of entrepreneurship, [the authors] ... examine the relationship between bricolage and corporate entrepreneurship as well as the mediating role of opportunity identification. Moreover, as bricolage activities depend on interactive social contexts rather than individual efforts, the firm's learning orientation is proposed as a moderator that influences the positive effects of bricolage on opportunity identification. (abstract from authors and shortened)

**Baker, Ted; and Reed Nelson.** (2005). Something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Science Quarterly*, vol. 50, no. 3, pp. 329–66.

In this article, the authors studied 29 firms and demonstrated that entrepreneurs differ in their responses to severe resource constraints. Some entrepreneurs were able to render unique services by recombining elements at hand for new purposes that challenged institutional definitions and limits. They introduce the concept of bricolage to explain many of these behaviors of creating something from nothing by exploiting physical, social, or institutional inputs that other firms rejected or ignored. Central to the study's contribution is the notion that companies engaging in bricolage refuse to enact the limitations imposed by dominant definitions of resource environments; rather, they create their opportunities. (from journal's abstract)

**Baron, Robert.** (1998). Cognitive Mechanisms in Entrepreneurship: Why and When Entrepreneurs Think Differently Than Other People. *Journal of Business Venturing*, vol. 13, no. 4, pp. 275–95.

In this conceptual article, the author presents information on a study that examined the possible differences in the thinking of entrepreneurs and other people. This article offers a number of implications of a cognitive perspective for entrepreneurship research.

**Davidsson, Per; and Benson Honig.** (2003). The Role of Social and Human Capital among Nascent Entrepreneurs. *Journal of Business Venturing*, vol. 18, pp. 301–31.

This study examines nascent entrepreneurship by comparing individuals engaged in nascent activities with a control group and finds that social capital is a robust predictor for nascent entrepreneurs, as well as for advancing through the startup process. With regard to outcomes like first sale or showing a profit, only one aspect of social capital, viz., being a member of a business network, had a statistically significant positive effect. The study supports human capital in predicting entry into nascent entrepreneurship, but only weakly for carrying the startup process toward successful completion.

**Grégoire, Denis A.; Andrew C. Corbett; and Jeffery S. McMullen.** (2011). The Cognitive Perspective in Entrepreneurship: An Agenda for Future Research. *Journal of Management Studies*, vol. 48, no. 6, pp. 1443–77.

Despite its many achievements, scholarship at the intersection of entrepreneurship and cognition has focused primarily on the consequences of what happens when an entrepreneur benefits from various cognitive characteristics, resources, or other dispositions. As such, cognitive research in entrepreneurship continues to suffer from narrow theoretical articulations and weak conceptual foundations that lessen its contribution to the managerial sciences. To address these issues, we draw from extant work on the nature and practice of cognitive research to develop a systematic approach to study entrepreneurship cognition. (abstract from authors and shortened)

**Grégoire, Denis; and Dean A. Shepherd.** (2012). Technology Market Combinations and the Identification of Entrepreneurial Opportunities. *Academy of Management Journal*, vol. 55, no. 4, pp. 753–85.

Integrating theoretical work on the nature of entrepreneurial opportunities with cognitive science research on the use of similarity comparisons in making creative mental leaps, the authors develop a model of opportunity identification that examines the independent

effects of an opportunity idea's similarity characteristics and the interaction of these characteristics with an individual's knowledge and motivation. They test this model with an experiment where they asked entrepreneurs to form beliefs about opportunity ideas for technology transfer. They found that the superficial and structural similarities of technology-market combinations impact the formation of opportunity beliefs, and that individual differences in prior knowledge and entrepreneurial intent moderate these relationships. (from journal's abstract)

Haynie, J. Michael; Dean A. Shepherd; Elaine Mosakowski; and Christopher Earley. (2010). A Situated Metacognitive Model of the Entrepreneurial Mindset. *Journal of Business Venturing*, vol. 25, no. 2, pp. 217–29.

The authors develop a framework to investigate the foundations of an "entrepreneurial mind-set"—described by scholars as the ability to sense, act, and mobilize under uncertain conditions. They focus on metacognitive processes that enable the entrepreneur to think beyond or reorganize existing knowledge structures and heuristics, promoting adaptable cognitions in the face of novel and uncertain decision contexts. They integrate disparate streams of literature from social and cognitive psychology toward a model that specifies entrepreneurial metacognition as situated in the entrepreneurial environment. They posit that foundations of an entrepreneurial mindset are metacognitive in nature, and subsequently detail how, and with what consequence, entrepreneurs formulate and inform "higher-order" cognitive strategies in the pursuit of entrepreneurial ends. (from journal's abstract)

**Haynie, J. Michael; and Dean A. Shepherd.** (2011). Toward a Theory of Discontinuous Career Transition: Investigating Career Transitions Necessitated by Traumatic Life-Events. *Journal of Applied Psychology*, vol. 96, pp. 501–24.

Career researchers have focused on the mechanisms related to career progression. Although less studied, situations in which traumatic life events necessitate a discontinuous career transition are becoming increasingly prevalent. Employing a multiple case study method, the authors offer a deeper understanding of such transitions by studying an extreme case: soldiers and Marines disabled by wartime combat. Their study highlights obstacles to future employment that are counterintuitive and stem from the discontinuous and traumatic nature of job loss. Effective management of this type of transitioning appears to stem from efforts positioned to formulate a coherent narrative of the traumatic experience and thus reconstruct foundational assumptions about the world, humanity, and self. These foundational assumptions form the basis for enacting future-oriented career strategies, such that progress toward establishing a new career path is greatest for those who can orientate themselves away from the past (trauma), away from the present (obstacles to a new career), and toward an envisioned future career positioned to confer meaning and purpose through work. (from journal's abstract)

**Hitt, Michael; Barbara Keats; and Samuel DeMarie.** (1998). Navigating in the New Competitive Landscape: Building Strategic Flexibility and Competitive Advantage in the 21st Century. *Academy of Management Executive*, vol. 12, pp. 22–43.

The article cites the importance of building strategic flexibility and a competitive advantage for organizations to survive in the face of emerging technical revolution and increasing globalization. The nature of the forces in the new competitive landscape requires a continuous rethinking of current strategic actions, organization structure, communication systems, corporate culture, asset deployment, and investment strategies—in short, every aspect of a firm's operation and long-term health.

**Hmieleski, Keith; and Andrew Corbett.** (2006). Proclivity for Improvisation as a Predictor of Entrepreneurial Intentions. *Journal of Small Business Management*, vol. 44, pp. 45–63.

This study examines the relationship between improvisation and entrepreneurial intentions and finds that entrepreneurial intentions are associated with measures of personality, motivation, cognitive style, social models, and improvisation. The strongest relationship is found between entrepreneurial intentions and improvisation.

**Keh, Hean; Maw Der Foo; and Boon Chong Lim.** (2002). Opportunity Evaluation under Risky Conditions: The Cognitive Processes of Entrepreneurs. *Entrepreneurship: Theory and Practice*, vol. 27, pp. 125–48.

This study uses a cognitive approach to examine opportunity evaluation, as the perception of opportunity is essentially a cognitive phenomenon. The authors present a model that consists of four independent variables (overconfidence, belief in the law of small numbers, planning fallacy, and illusion of control), a mediating variable (risk perception), two control variables (demographics and risk propensity), and the dependent variable (opportunity evaluation). They find that illusion of control and belief in the law of small numbers are related to how entrepreneurs evaluate opportunities. Their results also indicate that risk perception mediates opportunity evaluation.

**Krueger, Norris.** (2000). The Cognitive Infrastructure of Opportunity Emergence. Entrepreneurship: *Theory and Practice*, vol. 24, pp. 5–23.

In this article, the author argues that seeing a prospective course of action as a credible opportunity reflects an intentions-driven process driven by known critical antecedents. On the basis of well-developed theory and robust empirical evidence, he proposes an intentions-based model of the cognitive infrastructure that supports or inhibits how individuals perceive opportunities. The author also shows the practical diagnostic power this model offers to managers.

**Kuemmerle, Walter.** (May 2002). A Test for the Fainthearted. *Harvard Business Review*, pp. 122–27. Starting a business is rarely a dignified affair. The article discusses what really makes an entrepreneur; what characteristics set successful entrepreneurs apart, enabling them to start ventures against all odds and keep them alive even in the worst of times; and finally, whether, if you don't possess those characteristics, they can be developed.

**McGrath, Rita; and Ian MacMillan.** (2000). *The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty.* Cambridge, MA: Harvard Business School Press.

In this book, the authors provide tips on how to achieve an entrepreneurial mindset. For example, they discuss the need to focus beyond incremental improvements to entrepreneurial actions, assess a business's current performance to establish the entrepreneurial framework, and formulate challenging goals by using the components of the entrepreneurial framework.

**McMullen, Jeffery S.; and Dean Shepherd.** (2006). Entrepreneurial Action and the Role of Uncertainty in the Theory of the Entrepreneur. Academy of Management Review, vol. 31, pp. 132–52.

By considering the amount of uncertainty perceived and the willingness to bear uncertainty concomitantly, the authors provide a conceptual model of entrepreneurial action that allows for examination of entrepreneurial action at the individual level of analysis while remaining consistent with a rich legacy of system-level theories of the entrepreneur. This model not only exposes limitations of existing theories of entrepreneurial action but also contributes to a deeper understanding of important conceptual issues, such as the nature of opportunity and the potential for philosophical reconciliation among entrepreneurship scholars.

**Sarasvathy, Saras.** (2006). *Effectuation: Elements of Entrepreneurial Expertise*. Cheltenham, UK: Edward Elgar Publishers.

This book gives the history of the development of effectuation and provides provocative new applications and future research directions.

Sarasvathy, Saras. www.effectuation.org.

This website provides an up-to-date collection of works on effectuation.

**Shepherd, Dean A.; and Holger Patzelt.** (2011). Sustainable Entrepreneurship: Entrepreneurial Action Linking "What Is to Be Sustained" with "What Is to Be Developed." *Entrepreneurship: Theory and Practice*, vol. 1, pp. 137–63.

Informed by the sustainable development and entrepreneurship literatures, the authors offer the following definition: Sustainable entrepreneurship is focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where gain is broadly construed to include economic and noneconomic gains to individuals, the economy, and society. (from journal's abstract)

**Shepherd, Dean A.; and Holger Patzelt.** (2015). Harsh Evaluations of Entrepreneurs Who Fail: The Role of Sexual Orientation, Use of Environmentally Friendly Technologies, and Observers' Perspective Taking. *Journal of Management Studies*, vol. 52, pp. 253–84.

Although there is a pervasive anti-failure bias in society, we investigate why some entrepreneurs who fail are evaluated more harshly than others. Building on attribution theory and the literatures on prejudice, pro-social intentions, and perspective taking, we offer an evaluation model of entrepreneurial failure and test this model on 6,784 assessments made by 212 observers. We find that variance in the harshness of failure evaluations depends on both the attributes of the entrepreneur and the attributes of the observer, and the interaction between the two. Specifically, entrepreneurs who are homosexual are evaluated more harshly by some observers and entrepreneurs who use environmentally friendly technology are evaluated less harshly. Moreover, observers high in perspective taking are more "lenient" in their failure evaluations of those who use environmentally friendly technology than those low in perspective taking. (from journal's abstract)

**Shepherd, Dean A.; and Holger Patzelt.** (2018). *Entrepreneurial Cognition: Exploring the Mindset of Entrepreneurs*. Palgrave Macmillan.

This book is open access—it is free—and can be downloaded from: https://www.palgrave.com/us/book/9783319717814

**Shepherd, Dean A.; Trenton A. Williams; and Holger Patzelt.** (2015). Thinking about Entrepreneurial Decision Making Review and Research Agenda. *Journal of Management*, vol. 41, no. 1, pp. 11–46.

Judgment and decision-making research has a long tradition in management and represents a substantial stream of research in entrepreneurship. Despite numerous reviews of this topic in the organizational behavior, psychology, and marketing fields, this is the first review in the field of entrepreneurship. In this review, the authors inductively categorize the articles into decision-making topics arranged along the primary activities associated with entrepreneurship—opportunity assessment decisions, entrepreneurial entry decisions, decisions about exploiting opportunities, entrepreneurial exit decisions, heuristics and biases in the decision-making context, characteristics of the entrepreneurial decision maker, and environment as decision context. (from journal's abstract)

Tang, Jintong; K. Michele (Micki) Kacmar; and Lowell Busenitz (2012). Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, vol. 27, no. 1, pp. 77–94.

The recognition and development of new opportunities are at the heart of entrepreneurship. Building from Kirzner's (1973, 1999) work, cognition theory, and McMullen and Shepherd's (2006) recent development, we offer a model involving three distinct elements of alertness: scanning and search, association and connection, and evaluation and judgment. We then conduct multiple studies to develop and validate a 13-item alertness scale that captures these three dimensions. Results demonstrate appropriate dimensionality, strong reliability, and content, convergent, discriminant, and nomological validity. The resultant instrument provides researchers with a valuable tool for probing the entrepreneurial opportunity development process including antecedents and outcomes. (abstract by authors)

**Welter, Chris; and Sungho Kim.** (2018). Effectuation under risk and uncertainty: A simulation model. *Journal of Business Venturing*, vol. 33, no. 1, pp. 100–16.

Effectuation was first proposed as an expert entrepreneur's decision-making framework under uncertainty, but the applications of effectuation beyond the condition of uncertainty have seen less attention. Using an agent-based simulation model, this paper investigates the effectiveness of effectuation relative to causation in uncertain and risky contexts. The simulation overcomes the shortcomings of think aloud protocols typically used in effectuation research. The results suggest that effectuation outperforms causation in both risky and uncertain contexts until the entrepreneur can predict the future correctly > 75% of the time. This suggests expanding the boundary of effectuation from uncertainty to whenever predicting the future is challenging. (abstract by authors)

Wood, Matthew S.; David W. Williams; and Will Drover. (2017). Past as Prologue: Entrepreneurial Inaction Decisions and Subsequent Action Judgments. *Journal of Business Venturing*, vol. 32, no. 1, pp. 107–27.

We add richness and depth to entrepreneurial action theory by investigating the role of entrepreneurial inaction decisions—deliberate decisions not to pursue a perceived opportunity—in influencing entrepreneurs' paths both away from and toward action judgments on subsequent opportunities. Doing so, we utilize a sequential decision-judgment perspective to uniquely theorize that entrepreneurs' mental representations qualified by doubt carry over from initial entrepreneurial inaction decisions to consequentially impact assessments of opportunities that follow. ... we find that initial inaction decisions negatively affect entrepreneurs' likelihood of subsequent action judgments. However, this effect is mitigated when entrepreneurs perceive subsequent opportunities as dissimilar, rather than similar. (abstract by authors but shortened)

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## CORPORATE ENTREPRENEURSHIP

## LEARNING OBJECTIVES

1

To understand the causes of interest in corporate entrepreneurship.

2

To introduce the "entrepreneurial" mode of managing firms and distinguish it from the traditional mode.

3

To provide a scale for capturing the extent to which management adopts entrepreneurial or traditional behaviors.

4

To discuss how established firms can develop an entrepreneurial culture and the challenges of doing so.

5

To acknowledge that projects fail and people feel bad about it, and to introduce the dual process model for maximizing learning from failure experiences.