

Individual Decision Making and Creativity

CHAPTER 5

Chapter Outline

A Decision-Making Model
Influences on Decision Making
The Nature of Creativity
Enhancing and Improving Creativity
Implications for Managerial Practice

Case Problem 5A: Real Estate Agent Bree Wants to Become More Creative

Case Problem 5B: Is AI Doing the Heavy Thinking for Our Managers?



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LEARNING OBJECTIVES

After reading and studying this chapter and doing the exercises, you should be able to:

1. Work through the decision-making model when faced with a major decision.
2. Identify and describe factors that influence the effectiveness of decision making.
3. Understand the nature of creative decision making in organizations.
4. Enhance your creative problem-solving ability.

During the pandemic, Vivo Living, as well as a few other real estate investment companies, spotted an opportunity. The hospitality industry was facing a crisis of low occupancy. Vivo Living had been taking over struggling or foreclosed properties at bargain prices and converting them into moderate-priced apartments for years, and spotted expansion opportunities. A recession, and then inflation, created additional demand for inexpensive living space. Dan Norville, president of Vivo Living, said, “We consider ourselves a building recycling company.” Vivo converted its first hotel into apartments in 2019 with the former Bigelow Hotel in Ogden, Utah, built one hundred years ago, with 112 rooms. The company now has annual revenues of close to \$8 million and about 60 employees.

Vivo management searches for older motels with open-air corridors and staircases that big hotel brands avoid. Norville, however, can see value in these old-fashioned motels. As Norville explains, “But when you look at them, and you look at the garden-style multi-family right next to it, they’re almost the exact same property footprint and type.” Vivo Living offers apartments to a wide variety of people, including college students. Among Vivo’s offerings are prefurnished loft apartments in beautiful, converted hotels.

In addition, Norville spotted a market opportunity to provide studio apartments to service workers because they often need transitional housing, such as construction workers and visiting nurses. The company’s mission statement includes the following:

We are experts in turning tired hotels into beautiful, affordable rental housing for your local workforce. We can do it quickly and efficiently, delivering hundreds of naturally occurring affordable housing to your city in a matter of months. Our approach will not end the housing crisis, but it is a small step forward in solving it.

Each studio apartment Vivo builds includes a kitchen, bathroom, and living space. Vivo prefers the term *value* housing over *affordable*. Community amenities include wireless Internet, on-site maintenance, on-site management, a laundry, and on-site parking. The apartment complexes also offer built-in coworking, game rooms, and social spaces. “We’re really trying to pursue that triple-bottom-line philosophy of social, profitable, and being green,” said Norville. The green aspect focuses on recycling old hotels rather than placing them in landfills. Former extended-stay hotels already have kitchens that can be ready for leasing in as short as one month. The Vivo Living construction teams are so efficient that they can turn around an old motel in four to six months.

Norville believes that a major problem his company addresses is the gentrification in many cities crowding out the younger population and increasing income inequality in the U.S. Rent for studio apartments varies with geographic location, with a price range of \$549 to \$1,600, with an average of \$1,000 per month expressed in 2026 dollars.

Crystal Morre of Habitat for Humanity, New Braunfels, Texas, has kind words for Vivo Living: “With Habitat for Humanity we are always looking for opportunities for families to live in a safe, decent, affordable home, and we’re really excited this could be the answer for those folks that need something under \$900.”¹

This story about the developers of moderate cost apartment complexes illustrates how creative and innovative thought can launch an enterprise and help society. Also illustrated is that business creativity does not necessarily focus on esoteric technology.

In this chapter, we study creativity in the context of individual decision making in organizations. First, we describe a model of the decision-making process; then we examine key influences on decision making, followed by a careful look at the nature and development of creativity.

We return to the study of decision making in Chapter 9 with a description of group decision making. In Chapter 16 we include a discussion of innovation, which can be considered an extension or positive consequence of creativity. The creative aspects of decision making are emphasized in this chapter because employee creativity contributes enormously to organizational success. IBM conducted a survey of more than 1,500 CEOs

across 33 industries and 60 countries about the number-one attribute they look for in hiring. The attribute was creativity because every company wants to be at the forefront of its industry and also be an innovation leader. For those outcomes, you need highly creative employees.²

A Decision-Making Model

A **decision** takes place when a person chooses among two or more alternatives in order to solve a problem. People attempt to solve problems because a **problem** is a discrepancy between the ideal and the real. The ability to make good decisions is enormously valuable for a person's career and job performance. Choosing the right career will most likely mean more job satisfaction, less stress, and a longer life. (Stress-related disorders often shorten life.) Making good business decisions is more complex and difficult than most people recognize.

Managers and corporate professionals may make decisions in a generally rational framework. Nevertheless, at various points in the model (e.g., choosing creative alternatives), intuition and judgment come into play. A well-established fact is that individual decision making is not always rational.

The seven steps in the decision-making process are outlined in Figure 5-1 and described in the following paragraphs. The model is useful for making complex decisions of both a personal and an organizational nature. You might therefore want to use the model in purchasing a car, choosing a career, or deciding whether to drop a product line.

LEARNING OBJECTIVE 1

Work through the decision-making model when faced with a major decision.

Decision The act of choosing among two or more alternatives in order to solve a problem.

Problem A discrepancy between the ideal and the real.

Identify and Diagnose the Problem

Problem solving and decision making begin with the awareness that a problem exists. In other words, the first step in problem solving and decision making is identifying a gap between desired and actual conditions. A problem occurs when something has gone wrong or has deviated from the norm. At times, a problem is imposed on a manager, such

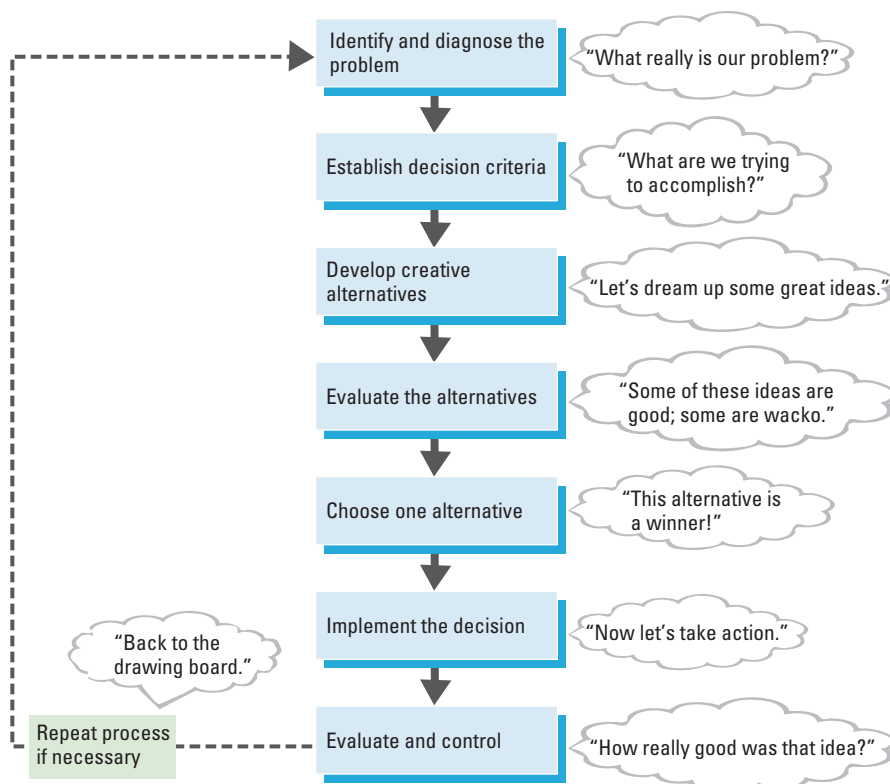


FIGURE 5-1 The Decision-Making Process

as a demand from upper management to increase online retailing sales by 20 percent. At other times, the manager has to search actively for a worthwhile problem or opportunity. For example, a logistics manager might take the initiative to find a backup supplier for precious metals.

Finding a problem lies at the heart of being a successful entrepreneur. A classic example is why Howard Schultz expanded Starbucks into a chain of cafés in the United States. (Starbucks already existed as a seller of coffee beans to stores.) According to legend, Schultz was traveling in Italy when he noticed that Italians were passionate about strong coffee and their local cafés. The insight hit him that “If it works in Italy, why not at home too?” He would offer Americans something they were not used to, thereby creating a new market.³

A thorough diagnosis of the problem is important because the real problem may be different from the one suggested at first look. To diagnose a problem properly, you must clarify its true nature. For example, a problem plaguing many organizations is high employee turnover. An executive might conclude that higher pay would reduce turnover. Yet the true problem might be not enough managers and supervisors in the organization who display care and concern for employees. The expensive solution to the problem of increasing pay then fails to reduce turnover.

Establish Decision Criteria

Decision criteria The standards of judgment used to evaluate alternatives.

When solving a problem, it pays to know what constitutes a good decision. **Decision criteria** are the standards of judgment used to evaluate alternatives. The more explicit the criteria, the better the decision will be. In seeking to reduce costs, several of the decision criteria might include the following:

1. Product (or service) quality should not suffer as a result of the cost cutting.
2. Profits should increase as a result of the cost cutting.
3. Employee turnover should not increase because of the cost cutting.
4. Employee morale should not decrease as a result of the cost cutting.

A good starting point in establishing decision criteria, according to the late management guru Peter Drucker, is to ask, “What needs to be done?” rather than “What do I want to do?”⁴ In the present example, the manager would ponder whether cost cutting is even worthwhile. Perhaps increasing spending would lead to improvements that would more than pay for themselves, such as hiring a highly talented worker who would make money for the company.

Develop Creative Alternatives

The third step in decision making is to generate alternative creative solutions. All kinds of possibilities are explored in this step even if they seem unrealistic. Often the difference between effective and mediocre decision makers is that the former do not accept the first alternative they think of. Instead, they keep digging until they find the best solution. For example, a corporate executive who was downsized out of a job wanted to purchase a business to operate. Impatient to renew his career, he purchased a well-known—but poorly performing—franchise. Trying to make the franchise operation profitable drained the rest of his cash reserve and he sold back the franchise at a big loss. Had he researched better alternatives, he might have succeeded. Creativity is such a key part of decision making that it receives separate treatment later in this chapter.

Evaluate the Alternatives

The next step involves comparing the relative value of the alternatives. The problem solver examines the pros and cons of each alternative and considers its feasibility. Part of evaluating the pros and cons of alternative solutions is to compare each against the decision criteria established in the second step. Some alternatives appear attractive, but

implementing them would be impossible or counter-productive. For example, one alternative solution a couple chose for increasing their income was to open an entirely new restaurant and bar in a new complex of office, residential, and retail spaces. When they discovered that the start-up costs would be approximately \$700,000, they decided that the alternative was impossible for the time being.

Choose One Alternative

After investing a reasonable amount of time in evaluating the alternative solutions, it is time to choose one of them—to actually make a decision. An important factor influencing this process is the degree of uncertainty associated with it. People who prefer not to take risks choose alternatives that have the most certain outcomes. In contrast, risk takers are willing to choose alternatives with uncertain outcomes if the potential gains appear to be substantial. Despite a careful evaluation of the alternatives, in most decisions ambiguity remains. The decisions faced by managers are often complex, and the factors involved in them are often unclear.



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There are varying degrees of uncertainty associated with business decisions.

Implement the Decision

Converting the decision into action is the next major step. Until a decision is implemented, it is not really a decision. Many decisions represent wasted effort because nobody is held responsible for implementing them. Much of a manager's job involves helping group members implement decisions. A fruitful way of evaluating a decision is to observe its implementation. A decision is seldom a good one if workers resist its implementation or if it is too cumbersome to implement.

Evaluate and Control

The final step in the decision-making framework is to evaluate how effectively the chosen alternative solved the problem and met the decision criteria. The results of the decision obtained are controlled when they are the ones set forth during the problem-identification stage. Getting back to the example in the section "Establish Decision Criteria," the decision to cut costs would be considered good if service did not suffer, profits were higher, turnover did not increase, and morale did not decrease.

Influences on Decision Making

Decision making is usually not entirely rational because so many factors influence the decision maker. Research and opinion emphasize that humans use problem-solving strategies that are reasonably rapid, reasonably accurate, and that fit the quantity and type of information available.⁵ In short, people do the best with what they have while making decisions.

Most decision makers do not have the time or resources to wait for the best possible solution. Instead, they search for decisions, or those that suffice in providing a minimum standard of satisfaction. Such decisions are adequate, acceptable, or passable. Many decision makers stop their search for alternatives when they find a sufficient one.

Accepting the first reasonable alternative may only postpone the need to implement a decision that truly solves the problem and meets the decision criteria. For example, slashing the price of a pickup truck to match the competition's price can be regarded as the result of a sufficient decision. A superior decision might call for the firm to demonstrate to end users that the difference in quality is worth the higher price, which in the long term will increase sales.

LEARNING OBJECTIVE 2
Identify and describe factors that influence the effectiveness of decision making.

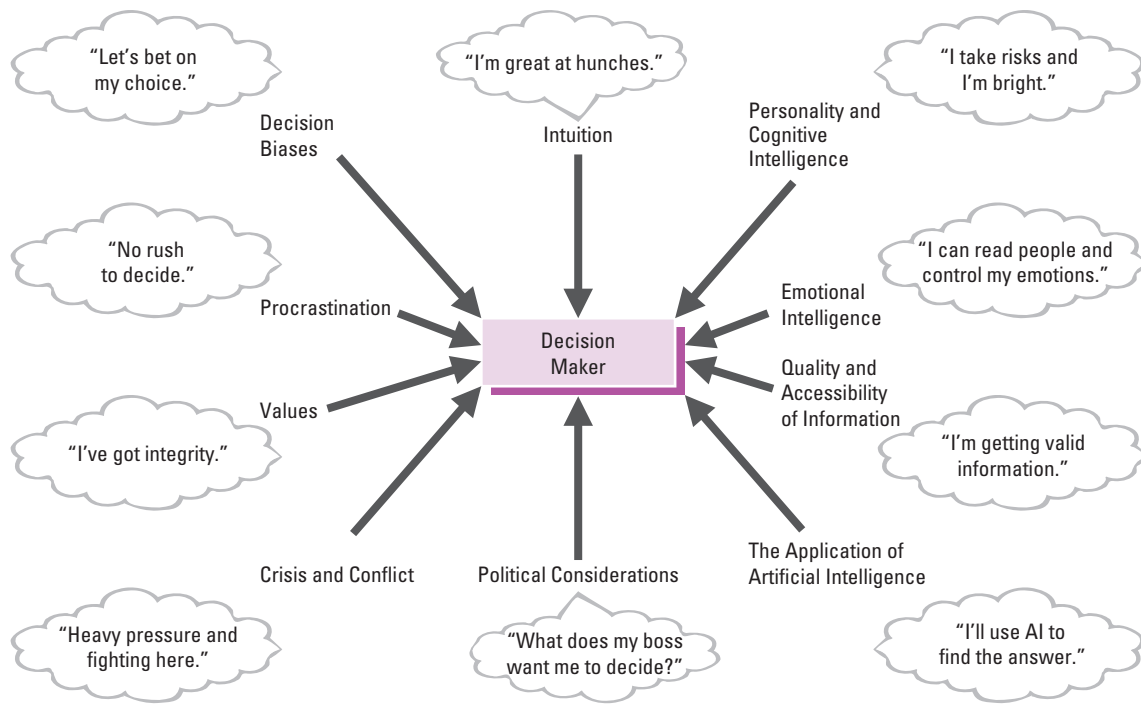


FIGURE 5-2 Influences on Decision Making

According to decision theorist Julia Galef, the correct way of understanding rationality in decision making is that rationality depends on emotions. She explains that rationality is not about getting rid of emotions but analyzing them and taking them into account when making decisions.⁶ Imagine that an entrepreneur wants to start a new business. At the same time, he recognizes that a major reason for starting the new business is to get revenge on the employer who recently fired him. The entrepreneur must keep in mind not to make foolish decisions about investing in a new enterprise just to satisfy his revenge motive.

Heuristics Simplified strategies that become rules of thumb in decision making.

Partly because of the need to make decisions quickly, decision makers often use simplified strategies, also known as **heuristics**. A heuristic becomes a rule of thumb in decision making, such as the policy to reject a job applicant who does not smile during the first three minutes of an in-person or video job interview. A widely used investing heuristic is as follows: The percent of equity in your portfolio should equal 100 minus your age, with the remainder being invested in fixed-income investments including cash. (Some financial advisors recommend 110 instead of 100.) A 25-year-old would therefore have a portfolio consisting of 25 percent fixed-income securities such as bonds, and 75 percent in equity. Heuristics help the decision maker cope with masses of information, but their oversimplification can lead to inaccurate or irrational decision making.

A host of influences on the decision-making process contribute to decision effectiveness and quality. We describe nine such influences, as outlined in Figure 5-2.

Intuition

Intuition An experience-based way of knowing or reasoning in which weighing and balancing evidence are done automatically.

Intuition is a key personal characteristic that influences decision making. Effective decision makers do not rely on analytical and methodological techniques alone. Instead, they also use hunches and intuition. **Intuition** is an experience-based way of knowing or reasoning in which weighing and balancing evidence are done automatically. Intuition can be based mostly on experience, or mostly on feeling.⁷ In an organizational world overflowing with data, intuition plays the key role of making sense of all the data.

When relying on intuition, the decision maker arrives at a conclusion without using a step-by-step logical process. The fact that experience contributes to intuition means that decision makers can become more intuitive by solving many difficult problems. Amazon executive chairman Jeff Bezos has shaped the company into relying heavily on analytics

Although the use of intuition in organizational decision making is now widely recognized, researchers have also found limitations to intuition. When the stakes are high, such as a CEO contemplating acquiring a company in a different field, rational analysis is recommended. The analysis might include receiving input from many people and asking knowledgeable people loads of questions. A Nobel Prize-winning psychologist and two of his colleagues have developed a process for making big strategic decisions, including whether to go through with an acquisition. Their suggested approach, called the Mediating Assessment Protocol, has the goal of putting off intuition-based decision making until a choice can be informed by multiple factors. In short, intuition comes into play after extensive quantitative analysis.¹¹

The personality and cognitive intelligence of the decision maker influence that person's ability to find effective solutions. A starting point is that the personality trait of risk taking and thrill seeking strongly influences the propensity to take risks. A real estate developer with a strong risk-taking and thrill-seeking tendency might be willing to take a chance and erect a new apartment building in a distressed area of town. Part of her reasoning would be that the new building will start to improve the neighborhood, thereby attracting tenants and gradually improving property values.

Perfectionism is another personality factor that has a notable impact on decision making. People who seek the perfect solution to a problem are usually indecisive because they are hesitant to accept the fact that a particular alternative is good enough. **Self-efficacy**, the feeling of being an effective and competent person with respect to a task, also has an influence. Researchers note, for example, that having the right amount of “gall” contributes to innovative thinking.¹² If you have high self-efficacy for many tasks, your self-confidence will increase, leading to more innovative thinking and risk taking.



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Self-efficacy helps in making good decisions.

Optimism versus pessimism is another relevant personality dimension. Optimists are more likely to find solutions than pessimists are. Pessimists are also likely to give up searching because they perceive situations as being hopeless.

Cognitive intelligence has a profound influence on the effectiveness of decision making. In general, intelligent and well-educated people are more likely to identify and diagnose problems and make sound decisions than are those who have less intelligence and education. A notable exception applies. Some intelligent, well-educated people have such a fondness for collecting facts and analyzing them that they suffer from analysis paralysis.

Emotional Intelligence

Emotional intelligence is important for decision making because how effectively you manage your feelings and read other people affects the quality of your decisions. For example, if you cannot control your anger, you are likely to make decisions that are motivated by retaliation, hostility, and revenge. You might shout and swear at your team leader because of a work assignment you received.

Emotional intelligence also contributes to the problem of making decisions impulsively. The emotionally intelligent individual is able to control impulses to avoid making a decision too quickly. Creating a space of even several seconds between an event and a reaction can prevent an impulsive decision, such as switching suppliers because of a minor problem.¹³

Your emotional intelligence could also influence career decision making. If you understand your own feelings, you are more likely to enter an occupation or accept a position that matches your true attitudes. A common problem is that many people pursue “hot” and/or well-paying fields even when they are not passionate about the field. As a result, they are likely to become discouraged and leave the field—even as early as switching majors. Admitting this lack of passion to oneself might prevent misdirected time and effort.

Quality of Information and Big Data

Reaching an effective decision usually requires high-quality, valid information. One of the most important purposes of data analytics is to supply managers and professionals with high-quality information. A vice president of manufacturing might contemplate the establishment of a manufacturing plant in a distant city. The vice president would more likely make an effective decision if the data analytics group had accurate information about factors such as the caliber of the workforce and environmental regulations.

Big Data refers to enormous amounts of data that have the potential to be mined for information. The use of the term *Big Data* recognizes the importance of collecting vast amounts of data from many sources and then analyzing the data to squeeze out valuable information and insights about customers and employees. Big Data might also be used to predict events, such as future health insurance costs based on the lifestyle choices of current employees. A business example of Big Data is to predict which retail stores are likely to survive or close by analyzing mobile phone calls, demographic information, credit-card bills, and other unconventional data. Such information could be helpful to investors.¹⁴

The specialist who analyzes Big Data attempts to coax treasure out of messy, unstructured data.¹⁵ Making sense out of data is a real contribution because decision makers typically have more information available than they can absorb and integrate. For example, a company might use embedded employee badges that collect data on when employees enter the premises, how often they leave the building and return, and which employees enter and exit the building at the same time. But what useful insights might stem from all this information? One potential insight might be that some employees need help with overcoming tardiness.

Big Data Enormous amounts of data that have the potential to be mined for information.

A. Charles Thomas, the chief data and analytics officer at General Motors, provides an instructive example of the importance of analytics. He says that part of the reason analytics is so important to the auto industry stems from the long lead time needed to create a new vehicle. The process takes about five to seven years. “If you get it wrong, you’ve wasted five to seven years,” he said. “You have to figure out ways to get as much insight as early as possible about consumer preferences, pricing, features and what is likely to change the digital ecosystem.”¹⁶

A major purpose of analyzing masses of data is to help managers make decisions on the basis of evidence, rather than relying too heavily on intuition. A marketing example is that online booksellers have been able to track Big Data about which books customers bought, what else they looked at, and how much they were influenced by promotions, along with other information. Soon the booksellers developed algorithms to predict which books individuals might be interested in purchasing next.¹⁷ (Defined simply, an algorithm is a step-by-step procedure for problem solving, particularly for a computer.) These algorithms may enhance sales somewhat, but they can also result in loads of useless emails sent to customers. For example, you might have purchased a book about cocker spaniels as a gift for a friend, but you are not interested in purchasing five other books about dogs.



Decision makers often have to sort through Big Data.

The Application of Artificial Intelligence

Today’s managerial decision maker is often influenced by artificial intelligence. Predictions have been made that soon AI will be as important for companies as is the Internet.¹⁸ In almost all cases, artificial intelligence is produced by data scientists, software engineers, or statisticians, yet the manager or corporate professional uses the data and decides whether the data are useful. For example, an executive recruiting agency might use AI to identify the ideal candidate for a client’s chief financial officer opening. Yet the members of the management team should decide for themselves on such vital factors as how well they would enjoy working with this candidate and whether the candidate would fit in with the company culture.

A variety of companies have reported that the algorithms produced by artificial intelligence make them more efficient and give employees increased opportunities to perform new types of work. For example, Walmart uses an AI-driven inventory management system. By analyzing vast amounts of data, including sales trends, customer preferences, and supply chain considerations, the AI algorithm makes decisions to optimize inventory levels. The algorithm accurately predicts future demands, deciding when and how much to reorder for each product. The system also makes real-time decisions to distribute inventory across stores and channels based on local demand patterns.¹⁹

Another perspective on the use of AI in decision making is that it presents the decision maker with a balanced analysis of the decision to be made. The manager must then use judgment to decide what to do with the advice. Suppose a financial executive was pondering the feasibility of opening a currency exchange on 57th Street in Manhattan, a location for high-luxury retail stores, office buildings, and apartments. Here is part of the advice AI offers:

Opening a currency exchange on 57th Street in NYC could be a profitable venture. Yet careful consideration must be given to high operating costs, and substantial regulatory compliance. The area’s high foot traffic and tourism provide a strong customer base, but profitability depends on offering competitive rates and managing expenses effectively. The NYC currency exchange is competitive with established players operating nearby.

The executive would have to process this information, just as he or she would have to judge the merits of a report submitted by a bank researcher. An experiment with close to

300 managers demonstrates the importance of using human judgment when incorporating AI into decision making. The managers were shown recent stock prices for tech giant Nvidia and asked to predict the stock's price in a month's time. One half of the group had the opportunity to ask ChatGPT questions, and the other half were permitted to consult with their peers about the Nvidia stock price. The managers who used ChatGPT became significantly more optimistic and confident but produced less accurate forecasts than the group who discussed the stock price with their peers. The researchers concluded that the authoritative voice of AI, including the fine detail it provides, provided a strong sense of assurance. In contrast, peer feedback brings more caution, diverse perspectives, and healthy skepticism lacking in AI-assisted decision making.²⁰

Individual differences will often moderate which employees derive the most benefit from AI-assisted creativity. A field experiment was conducted in an Asian telemarketing company with the sales agents divided into the skill levels of top- and bottom-selling agents. The study found that AI assistance in generating sales leads, on average, increases employees' creativity in answering customers' questions after the first attempt at making a sale. Enhanced creativity paid off in increased sales. The effect, however, was much more pronounced for higher-skilled sales agents.²¹

Political Considerations

Under ideal circumstances, organizational decisions are made on the basis of the objective merits of competing alternatives. In reality, many decisions are based on political considerations, such as favoritism, alliances, or the desire of the decision maker to stay in favor with people who wield power. Political factors sometimes influence which data are given serious consideration in evaluating alternatives. The decision maker may select data that support the position of an influential person whom he or she is trying to please. For instance, a financial analyst was asked to investigate the cost-effectiveness of outsourcing the payroll department, so he gave considerable weight to the "facts" supplied by a provider of payroll services. This allowed him to justify having an outside firm assume responsibility for the payroll function—a decision he knew that the influential person favored. Political factors in decision making, therefore, present an ethical challenge to the decision maker.

Pressure from top management has been cited as a political force that leads managers to make overly optimistic forecasts in analyzing proposals for substantial investments. By inflating the probable benefits of a project and minimizing the downside, these managers lead the organization into initiatives that are likely to fall short of expectations.²² An example would be top management placing heavy pressure on an automotive marketing executive to come up with a dramatic new model that will enhance the company's prestige and profits. Facing this pressure, the marketing executive makes an optimistic proposal for a new vehicle that will compete against the Rolls-Royce. The company proceeds to build a \$400,000 luxury sedan that becomes a complete flop, partially because the automobile company is perceived by the public as a producer of ordinary—not prestigious—vehicles.

Crisis and Conflict

In a crisis, many decision makers panic. They become less rational and more emotional than they would be in a calm environment. Decision makers who are adversely affected by crisis perceive it to be a stressful event. As a result, they concentrate poorly, use poor judgment, and think impulsively. Under crisis, some managers do not bother dealing with differences of opinion because they are under so much pressure. A smaller number of managers perceive a crisis as an exciting challenge that energizes them toward their best level of problem solving and decision making.



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Facing a conflict can sometimes hamper decision making.

Conflict is related to crisis because both can be an emotional experience. For example, a CEO might be in conflict with a member of the executive team over whether retirement benefits should be frozen. The conflict upsets the CEO to the point that he makes the poor decision of firing the executive in question.

Values of the Decision Maker

Values influence decision making at every step. Ultimately, all decisions are based on values. A manager who places a high value on the personal welfare of employees tries to avoid alternatives that create hardship for workers and therefore implements decisions in ways that lessen turmoil. Another value that significantly influences decision making is the pursuit of excellence. A manager or professional who embraces the pursuit of excellence (and is therefore conscientious) will search for the high-quality alternative solution.

Attempting to preserve the status quo is a value held by many managers, as well as others. Clinging to the status quo is perceived as a hidden trap in decision making that can prevent people from making optimal decisions. People tend to cling to the status quo because they think they can prevent making a bad decision simply by not taking action at all.²³ If you value the status quo too highly, you may fail to make a decision that could bring about major improvements. For example, the sales manager might want to maintain a large outside sales force even though the vast majority of customers prefer to purchase online. Keeping more outside sales reps on the payroll than necessary prevents lowering the cost of selling company goods.

Procrastination

Many people are poor decision makers because they **procrastinate**, or delay taking action, without a valid reason. Procrastination results in indecisiveness and inaction and is a major cause of self-defeating behavior. People can overcome procrastination by learning how to become more self-disciplined. Part of the process involves setting goals for overcoming procrastination and conquering the problem in small steps. For example, a person might first practice making a deadline for a decision for a minor activity, such as responding to a group of email inquiries.

Procrastinate To delay taking action without a valid reason.

Biases that Influence Decision Making

The description of personality traits, values, and political factors as influences on decision making hints at the problem of biases when making decisions. These biases lead to predictable mistakes because the decision maker repeats the same error systematically. Among the many such biases investigated by decision theorists is overconfidence.²⁴ According to this bias, most of us are overconfident in our ability to estimate and we therefore do not acknowledge the true uncertainty. Overconfidence in our decisions can lead to ignoring some of the potential negatives in the situation. One of the managerial problems associated with overconfidence is that the person is likely to overlook the importance of contingency plans. For example, the executive cited previously in relation to political pressures did not develop a plan to exit the super-luxury sedan business.

Another bias that affects decision makers after they have made a decision is confirmation bias, which refers to the idea that we pay the most attention to information that supports the decision we have made. At the same time, we dismiss or minimize information that does not support our decision. A problem with the confirmation bias is that it may interfere with profiting from decision mistakes. An example of confirmation bias in practice would be an executive who decides to outsource manufacturing to one supplier and stop outsourcing to another supplier. The executive now looks for examples of satisfactory products from the new supplier and ignores problems.

A decision-making bias that resembles narrow-minded thinking is the not-invented-here (NIH) syndrome. NIH is a negative attitude toward knowledge derived from an external source.²⁵ A marketing officer experiencing the NIH syndrome might ignore useful new ideas from people in other departments, in disciplines outside of marketing, and

from other companies. It takes a lot of -deliberate effort to avoid rejecting ideas from external sources. A couple of the ideas about enhancing and improving creativity presented later in this chapter are helpful in overcoming the NIH syndrome.

The accompanying Organizational Behavior in Action box illustrates a business executive who enjoys solving big problems.

ORGANIZATIONAL BEHAVIOR IN ACTION

Sunrun CEO Mary Powell Loves Big Problems

Mary Powell is the CEO of California-based Sunrun, the largest residential solar and energy company in the U.S. The company offers high-performance and premium panel and battery installation in 20 states. In August 2024, Sunrun became the first solar plus storage company with over one million customers. The company has expanded beyond solar power into energy-storage systems. Solar energy now supplies about 15 percent of the electricity used in Texas. Powell sees this as a taste of the future and hopes to help direct what she labels a “consumer-led revolution to a different energy system.”

Powell observes that volatile fuel prices and damaging weather events have increased demand for technology that liberates people from the uncertainty of aging power grids. She claims that “We have to remember we have an energy system that is essentially 100 years old and wasn’t built for economic efficiency.” She believes that utilities and government must work together to leverage batteries to decrease stress from aging grid infrastructure.

Only about 4 percent of U.S. homes generate solar electricity, according to the U.S. Energy Information Administration. Many gas and utility companies are lobbying against solar panels for homes. Powell contends that this is a “short-sighted view,” comparing it to how decades ago traditional phone companies dragged their heels about cellular technology. She says, “You don’t resist innovation that consumers want and that can improve society. You figure out how to lean into it.” Another challenge is the difficult permitting process for solar-panel installation, which varies with geographic location. “For someone who loves big problems, it’s right up my alley,” Powell says.

High interest rates and rising equipment costs have been challenging because many customers finance their solar panel installations. The national average cost of a Sunrun installation is approximately \$18,000 for an average size home, plus a battery installation with a price range of \$13,000 to \$20,000. Qualified Sunrun customers can finance their solar panel installation with no down payment. Federal, state, and local tax incentives can lower the cost. A potential problem for homeowners who purchase a Sunrun system is roof damage caused by the system. Three steps

are involved in fixing the problem: remove the existing solar panels, repair the roof, and replace the existing solar panels. If the homeowner needs extensive roof repairs or a replacement, the cost can run from \$1,500 to \$6,000 for the removal of all solar panels. The average life span of a solar panel is 25 years.

Powell is also working on the problem of people wanting more control over how they power their homes. A partial solution she offers is a partnership with Ford Motor Company and Tesla. Sunrun made it possible to turn the F-150 Lightning trucks and Tesla battery wall systems into power plants enabling houses and the grid to tap into stored energy. The battery on the Ford F-150 is juiced with solar power. Powell points to 1,600 customers who powered through Hurricane Beryl in Houston, Texas, for more than nine days using their solar-plus-storage systems. Some customers even used extension cords to power their neighbors’ homes.

Before joining Sunrun, Powell was the CEO of Green Mountain Power in Vermont, where she began as VP of Human Resources. Powell has an associate degree from Keene State College in New Hampshire, where she studied art. She also attended the Wharton School Executive Education Program.

QUESTIONS

1. What should Powell and her team do about the problem of solar power limitations in regions without substantial sunlight?
2. Should Mary Powell and her team consider the cost of installing a solar power system to be a problem that requires resolution?

Source: Original story based on facts and observations in the following sources: Emily Bobrow, “Mary Powell: The CEO of Solar-Energy Company Sunrun Says She Loves Big Problems,” *The Wall Street Journal*, July 29–30, 2023, p. C 14; Doug Lewin, “A Consumer-Led Solar and Storage Revolution with Sunrun CEO Mary Powell,” *The Texas Energy and Power Newsletter* (www.douglewin.com), December 12, 2024, pp. 1–8; Mary Powell, “TIME 100 Climate 2024, CEO Sunrun,” *TIME* (www.time.com), November 12, 2024, pp. 1–3; “Sunrun CEO Mary Powell Named a 2024 Forbes’ Sustainability Leader,” *Sunrun Investor Relations* (www.investors.sunrun.com), September 19, 2024, pp. 1–3; Nichole Talbot, “How Much Does a Sunrun Solar Panel System Cost in 2025? Average Cost \$15,000–\$30,000,” *Modernize* (www.modernize.com), July 16, 2025, pp. 1–7.

The Nature of Creativity

Creativity in organizations continues to be a vital topic, and the foundation of organizational success. By being creative, organizations can regularly produce innovative products and services, and keep them competitive in the market.²⁶ **Creativity** can be defined simply as the process of developing good ideas that can be put into action. A consensus among researchers is that a creative idea is both novel and useful.²⁷ The term **innovation** emphasizes the commercialization part of creativity, such as developing an innovative product, as will be discussed in Chapter 16 about organizational change and innovation. We approach the nature of creativity from three perspectives: steps in the creative process, characteristics of creative people, and conditions necessary for creativity.

Steps in the Creative Process

Understanding the steps involved in creativity helps a person become more creative and better manage creativity among others. An old but well-accepted model of creativity can be applied to organizations. The model divides creative thinking into five steps, as shown in Figure 5-3. Not all creative thinking follows these steps exactly, but the model works much of the time.

Step 1 is *opportunity or problem recognition*: A person discovers that a new opportunity exists or a problem needs resolution. Step 2 is *immersion*: The individual concentrates on the problem and becomes immersed in it. The person will recall and collect information that seems relevant, dreaming up alternatives without refining or evaluating them. Step 3 is *incubation*: The person keeps the assembled information in mind for a while. He or she does not appear to be working on the problem actively, yet the subconscious mind takes over. While the information simmers, it is arranged into meaningful patterns. One way to capitalize on the incubation phase of creativity is to deliberately take a break from creative thinking. Instead, engage in a routine activity such as updating your electronic address book or sorting through email. By immersing yourself in an entirely different and less taxing mental activity, a solution to the creative problem may emerge.

Step 4 is *insight*: The problem-conquering solution flashes into the person's mind at an unexpected time, such as on the verge of sleep, during a shower, or while running. Insight is also called the *aha! experience*; all of a sudden, something clicks. Step 5 is *verification and application*: The individual sets out to prove that the creative solution has merit. Verification procedures include gathering supporting evidence, logical persuasion, and experimenting with new ideas. Application requires tenacity because most novel ideas are at first rejected as being impractical.

LEARNING OBJECTIVE 3

Understand the nature of creative decision making in organizations.

Creativity The process of developing good ideas that can be put into action.

Innovation The process of creating new ideas and their implementation or commercialization.



The insight step in the creative process is essential.

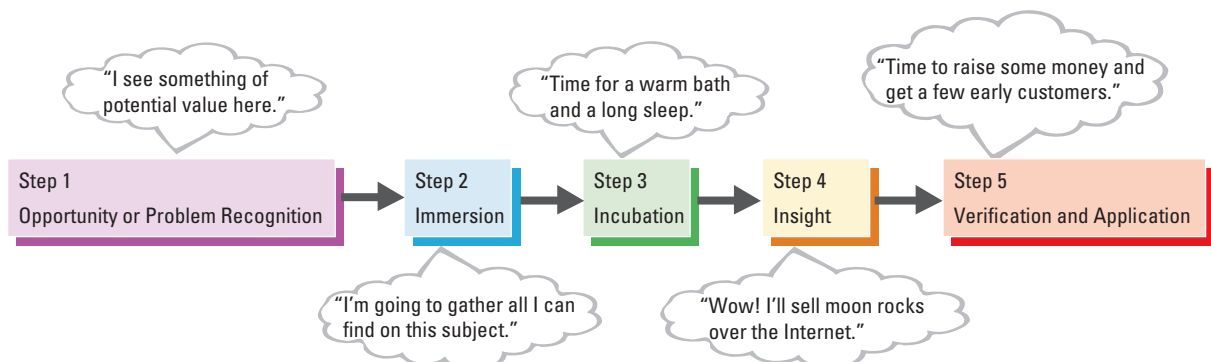


FIGURE 5-3 Steps in the Creative Process

Characteristics of Creative People

Creative workers are different in many ways from their less creative counterparts. The characteristics of creative people, including creative leaders, can be grouped into three key areas: knowledge, intellectual abilities, and personality. Yet, as explained by Robert J. Sternberg, so many things are true about some creative people, but there are exceptions. For example, most creative people are high in self-esteem, but not all. Yet one consistent attribute of creative people stands out—the decision to be creative. Creative people decide that they will forge their own path and follow it, for better or worse.²⁸

A useful insight into understanding creativity and the characteristics of creative people is that creative ability is a continuum rather than a binary characteristic. People vary considerably with respect to creative-thinking ability, but most people can strengthen some of their personal characteristics that contribute to creativity. For example, curiosity enhances creativity, and most people can practice being more curious.

Knowledge

Creative problem solving requires a broad background of information, including facts and observations. This is particularly true because creativity often takes the form of combining two or more existing things in a new and different way. Internet search engines become more profitable by combining the exquisite technology of the search engines with the concept behind the Yellow Pages. For example, if you search for a singer, you will receive pop-up ads selling the singer's music.

Intellectual Abilities

Creative problem solvers tend to be bright rather than brilliant, even though some of the best-known creative people are brilliant. Although he became politically controversial late in his career, an example of a brilliant creative person is Elon Musk, the CEO of Tesla Motors. He is also one of the founders of the company that became PayPal, as well as the space exploration company SpaceX (as mentioned previously). He founded Neuralink, a neurotechnology company that produces brain-computer interfaces that can enable paralyzed people to communicate. Musk holds undergraduate degrees in physics and business (reflecting more of his high intelligence!). A good sense of humor and intellectual playfulness are outstanding characteristics of a creative problem solver. Humor helps release creativity, and some creativity is required to be funny.

Creativity can stem from both *fluid intelligence* and *crystallized intelligence*. Fluid intelligence depends on raw processing ability, or how quickly and accurately we acquire information and solve problems. Like raw athletic ability, fluid intelligence begins to decline by age 30, partly because our nerve conduction slows. Crystallized intelligence is accumulated knowledge that increases with age and experience. The implication for a manager who wants to assemble a creative group is to staff it with workers of varying ages. Younger generation members of the group might have the wildest, most unique ideas. However, the older-generation members might have better intuition as to what will work.

Creative people maintain a youthful curiosity throughout their lives. The curiosity is not centered just on their field of expertise; they are enthusiastic about solving puzzling problems. Creativity consultant Juanita Weaver notes that when viewing the world with open and curious eyes, anything can trigger a new idea.²⁹ A person might be playing with a cat and observe how the cat's claws extend and contract based on the needs of the moment. Voila! The cat-watcher thinks of a new concept for a studded snow tire.

Creative people think divergently. They can expand the number of alternatives to a problem, thus moving away from a single solution. Yet the creative thinker also knows when it is



Frederic Legrand - COMEO/Shutterstock

An example of a brilliant creative person is Elon Musk, the CEO of Tesla Motors.

time to think convergently, narrowing the number of useful solutions so innovation can occur.

Personality

Creative people tend to have a special type of self-confidence labeled **creative self-efficacy**, the belief that one can be creative in a work role. The major contributors to creative self-efficacy are self-efficacy about the job in general, experience on the job, and a supervisor who serves as a good model and persuades the worker that he or she can find imaginative solutions.³⁰

Creative self-efficacy The belief that one can be creative in a work role.

Creative people can tolerate the isolation necessary for developing ideas. Talking to others is a good source of ideas, yet at some point the creative problem solver has to work alone and concentrate. Creative people are frequently nonconformists and do not need strong approval from a group. Many creative problem solvers are risk takers and thrill seekers who find developing imaginative solutions to problems to be a source of excitement. As Todd Yellin, a filmmaker and a former vice president of product at Netflix, explains it, “If you’re not falling on your face, you’re not leaning far enough forward to take risks.”³¹ (Netflix staffers are required to be creative.)

Creative people are also persistent, which is especially important because so many alternatives might have to be explored before finding a workable solution. Creative people enjoy dealing with ambiguity and chaos. Less creative people become quickly frustrated when task descriptions are unclear and disorder exists.

Conditions Necessary for Creativity

Certain individual and organizational conditions are necessary for—or at least enhance—the production of creative ideas. The most consistent of these conditions are described here.

Expertise, Creative-Thinking Skills, and Internal Motivation

Teresa M. Amabile has summarized 22 years of research about the conditions necessary for creativity in organizations, and later other observers have reported similar findings. Creativity takes place when three components join: expertise, creative-thinking skills, and the right type of motivation.³²

Expertise refers to the knowledge necessary to put facts together. The more facts floating around in your head, the more likely you are to combine them in some useful way. *Creative thinking* refers to how flexibly and imaginatively individuals approach problems. If you know how to keep digging for alternatives and avoid getting stuck in the status quo, your chances of being creative multiply. Persevering, or sticking with a problem to a conclusion, is essential for finding creative solutions. A few rest breaks to gain a fresh perspective may be helpful, but the creative person keeps coming back until a solution emerges.

The right type of motivation is the third essential ingredient for creative thought. A fascination with or passion for a task is more important than searching for external rewards. People will be the most creative when they are motivated primarily by the satisfaction and challenge of the work itself. Two angel investors interviewed 18 Harvard Business School alumni on their experiences starting companies. All the founders had a huge amount of passion for their project. One of the passionate founders was Matt Salzberg, who founded the meal delivery service Blue Apron. “Food has always been a passion of mine,” says Salzberg. “It connects people with history, culture, and family. I think that’s why we’re able to give such life to the Blue Apron brand.”³³

Passion for the task and high intrinsic motivation contribute to a total absorption in the work and intense concentration, which is known as the **experience of flow**. When “an experience is engrossing and enjoyable, the task becomes worth doing for its own sake regardless of the external consequences.”³⁴ Perhaps you have had this experience when completely absorbed in a hobby or being at your best in a sport or dance. (*Flow* also means being “in the zone.”) A highly creative businessperson, such as an entrepreneur

Experience of flow Being “in the zone”; total absorption in one’s work.

developing a plan for worldwide distribution of a product, will often achieve the experience of flow. Self-Assessment 5-1 gives you an opportunity to think about your powers of concentration.

Environmental Need

An environmental need must stimulate the setting of a goal. This is another way of saying, “Necessity is the mother of invention.” So often the light bulb is mentioned as an example of creativity, and there is a modern version of this tale. Light bulb manufacturers have observed that many aging people want to appear younger. In response to this need, the manufacturers have introduced dozens of new bulbs, including a flattering array of fluorescent, halogen, and new incandescent bulbs that are an improvement over soft light. These “natural light” bulbs make wrinkles and blemishes appear less evident. By responding to this new environmental need, light bulb sales increased about 6 percent during the period measured.³⁵ Facing a conflict or struggle can also present an environmental need, such as a company needing a way of getting a new product to market fast in order to survive.

Encouragement from Others and Having Creative Coworkers

Another external factor in creativity is encouragement, including a permissive atmosphere that welcomes new ideas. A manager who encourages imaginative and original thinking, and does not punish people for making honest mistakes, is likely to receive creative ideas from employees. Current research suggests two reasons people may need encouragement to bring forth creative ideas.

One reason is that people who generate a creative idea are often hesitant to try again because they might not be successful on a second attempt. As a result, their creative identities (reputation as creative thinkers) might suffer. A study involving cookbook authors in the United Kingdom supported this hesitancy to try to produce a second creative idea.³⁶ A leader who detects that the generator of a novel idea is hesitant to try again might encourage that group member to keep trying. Pointing out that unworkable ideas will not be ridiculed can be helpful also.

A second reason is that people who had one or more creative ideas rejected in the past might be hesitant to try again. Having suffered from creativity scars in early life or as a professional, many people are hesitant to bring forth a creative suggestion again. Creativity for these people has negative associations.³⁷ It is helpful for managers to emphasize that all creative ideas are welcome, even if not all of them can be implemented.

Mood

You may have noticed that you think more creatively when you are in a good mood. A positive mood apparently also contributes to creative job performance, even if mood might not be truly classified as a condition necessary for creativity. One finding from a larger study suggests that managers with high emotional intelligence can sometimes trigger enough positive affect in their subordinates to enhance their creativity.³⁸ In other words, if the manager can help workers feel good, those workers might be better creative problem solvers.

Conclusions from about 100 studies on mood conducted by Australian psychologist Joseph Forgas provide indirect evidence that a positive mood can enhance creativity. People who are in a good mood tend to have upbeat judgment.³⁹ As a result, they are more likely to recognize the possibilities of a creative alternative to a problem, such as helping obtain money for a business startup through GoFundMe.

Moderate Time Pressures

Some people are at their creative best when facing heavy time pressures. Several studies, however, suggest that feeling crunched leads to a creativity drop for most people. The greater the time pressure, the less likely workers are to solve a tricky problem, envision a new product, or have the type of “aha!” experiences that lead to innovation. Time pressure is a creativity dampener because it limits people’s freedom to reflect on different

SELF-ASSESSMENT 5-1**A Checklist of Behaviors and Attitudes Reflecting Good Concentration and Focus**

Attitude or Behavior	Yes	No
1. I rarely miss a deadline on a work project.		
2. When I begin a work activity, I am able to get started almost immediately.		
3. When I am introduced to a person for the first time, I usually catch the person's name clearly.		
4. I rarely read an entire news article online or in print.		
5. I find messages longer than a tweet difficult to follow.		
6. I haven't read an entire book, except when reading a book was required for a course.		
7. I have been able to perform well in a mental activity such as playing poker, chess, checkers, or doing a crossword puzzle.		
8. I am good at spotting typographical and spelling errors while I am reading.		
9. It is difficult for me to watch a movie, television program, or sporting event without sending a tweet or a social media post about every 5 minutes.		
10. I enjoy activities that force me to concentrate, such as meditation or yoga.		
11. A few minutes after meeting a person for the first time, I can recall the color of his or her eyes.		
12. I rarely ever lose or misplace items such as keys, handbag or wallet, gloves, or smartphone.		
13. I have considerable difficulty in sticking with one activity for more than 10 minutes.		
14. While at the grocery store or supermarket, I usually neglect to purchase one or two items, even if they are on my shopping list.		
15. It is easy for me to listen carefully to the words when my national anthem is being played, such as at a sporting event.		
16. I can fall asleep readily by thinking intently about something.		
17. It is uncomfortable for me to have a meal without background noise such as a television show, the radio, or other people talking around me.		
18. At work or at play, I am so focused on what I am doing it seems that I am wearing blinders as do horses.		
19. I enjoy studying the details of whatever I am doing.		
20. I spend far too much time trying to find electronic or paper documents.		

Scoring and Interpretation: The answers suggesting good concentration and focus are as follows:

- | | | | | |
|--------|--------|---------|---------|---------|
| 1. Yes | 5. No | 9. No | 13. No | 17. No |
| 2. Yes | 6. No | 10. Yes | 14. No | 18. Yes |
| 3. Yes | 7. Yes | 11. Yes | 15. Yes | 19. Yes |
| 4. No | 8. Yes | 12. Yes | 16. Yes | 20. No |

The higher you scored out of the 20 questions, the more likely it is that you have good concentration and focus. Also, if it was a struggle for you to complete the checklist, you may have a problem with concentration and focus.

options and directions. When workers believe they are faced with an urgent mission, the negative effects of time pressures are reduced.⁴⁰

Preferred Time of Day for Creative Thinking

Experimental evidence supports the widespread belief that there is a time of day when people do their best thinking. The underlying idea is that people have an internal biological clock, or *chronotype*. Biological clocks regulate sleep patterns, blood pressure, body temperature, and they influence when we are at our best physically and mentally. Three studies demonstrated that people are creative when the external clock is aligned with their internal biological clock. When the time of the day matches a person's chronotype, the person enters a cognitive-affective state that enables the person to display creativity.

The three experiments with working adults found that late chronotypes were more creative in late afternoon, and early chronotypes tended to be more creative in the morning. Creativity was measured through tests such as asking the participants to quickly suggest alternative uses for a brick or newspaper. An alignment between the biological clock and time of day also gave rise to positive mood and creative self-efficacy.⁴¹

Enhancing and Improving Creativity

LEARNING OBJECTIVE 4

Enhance your creative problem-solving ability.

A unifying theme runs through all forms of creativity training and suggestions for creativity improvement. Creative problem solving requires an ability to overcome traditional thinking. The concept of traditional thinking is relative and difficult to pin down but generally refers to a standard and frequent way of finding a solution to a problem. A traditional solution to a problem is thus a model or recurring solution. For example, traditional thinking suggests that to increase revenue, a retail store should conduct a sale. Creative thinking would point toward other solutions, such as increasing revenue by holding dramatic in-store demonstrations of a few products.

The central task in becoming creative is to break down rigid thinking that blocks new ideas. A conventional-thinking manager might accept the long-standing policy that spending more than \$8,000 requires three levels of approval. A creative leader might ask, "Why do we need three levels of approval for spending \$8,000? If we trust people enough to make them managers, why can't they have budget authorization to spend up to \$15,000?"

Overcoming traditional thinking is often characterized as *thinking outside the box*, an expression that has become a cliché to the point that many people find it annoying. A "box" in this sense is a category that confines and restricts thinking. During the aftermath of Hurricane Katrina that hit the Gulf Coast in 2005, rescue specialists thought outside the box regarding where to lodge rescue workers and construction workers. Cruise ships were hired, giving the workers temporary living quarters offshore. Here we describe several illustrative approaches and techniques for enhancing employee creativity. Recognize also that the conditions for creativity just described can be converted into techniques for creativity enhancement. For example, a manager might be able to enhance creativity by encouraging imaginative thinking.

1. *Provide managerial support and encouragement.* The most influential step a manager or leader can take to bring about creative problem solving is to develop a permissive atmosphere that encourages people to think freely. Praising creative work is important because, for most people to sustain their passion, they must feel that their work matters to the organization. Creative ideas should be evaluated quickly rather than put through a painfully slow review process. Encouragement fosters creativity, and the opposite is also true: discouragement inhibits creativity. Advertising executive Charlie Brower says a new idea "can be killed by a sneer or a yawn . . . stabbed to death by a quip and worried to death by a frown."⁴²
2. *Brainstorm.* Brainstorming, which most of us have already done, is the best-known technique for developing mental flexibility. The technique is also widely used to find solutions for real problems. The codirectors of Executive Education at the Stanford University Institute of Design, Jeremy Utley and Perry Klebahn, have developed and implemented a major refinement of traditional brainstorming. The

research evidence that individuals working alone generate more useful ideas than when working in a group is factored into their brainstorming method.

To maximize the team's creative output, this brainstorming refinement alternates between individual and collaborative idea generation. A study comparing solo idea generation, group brainstorming, and a hybrid model (alternating between the two) found that the last approach generated the most useful ideas. For best results, the codirectors recommend using an innovation sandwich: Gather people together to achieve the benefits of serendipity and shared knowledge. Next, send the people back to their work areas for quiet contemplation of what they discussed in the group session. Finally, gather the participants again to share their ideas and gather more sparks.⁴³

Brainstorming participants should prepare by studying the problem beforehand. Although it is useful to bring in employees from different departments to the brainstorming sessions, in-depth expertise on the subject may be as important as diversity in generating innovative ideas. Follow-through in terms of implementing the best ideas is essential. If the good ideas are not implemented, brainstorming participants might become disillusioned and less inclined to share their creative thinking in the future.⁴⁴

Brainstorming is frequently conducted remotely (a.k.a. virtual brainstorming). One advantage of working remotely is that geographically dispersed employees can participate. The problem the group is working on must be clearly communicated because communication can easily break down when people work remotely. A process can be structured whereby group members can contribute ideas at various times rather than have everyone online at the same time. Some brainstorming participants might prefer to think independently rather than think in the presence of others. The leader might create a shared document where participants can share their ideas. After the ideas are collected, group members should be given the opportunity to refine the suggestions.

ChatGPT specialist Gleb Tsipursky has developed a behavioral science-based approach to virtual brainstorming that has gained acceptance. The first step is to use digital collaboration tools to gather ideas. Teams may choose real-time virtual collaboration. Participants first have a brief discussion via a video conference and then input their ideas into a digital collaboration platform. More frequently, teams use an asynchronous approach in which team members add ideas independently by a set deadline. If desired, team members can submit ideas anonymously. Later, the brainstorming facilitator edits the input to remove duplicates, combines ideas, and consolidates them into categories. The condensed list is sent to team members to evaluate and provide feedback. A follow-up discussion by video conference chooses the best idea or ideas and translates them into action plans for implementation.⁴⁵ In other words, "Here's the great idea we agreed on, so let's put it to use."

The Skill-Development Exercise gives you a chance to apply brainstorming to a practical business problem.

3. *Generate loads of ideas including bad ones.* As is often said, creativity is a numbers game. If you generate loads of ideas, one of them might be a winner. Andrew Robertson was the CEO of the advertising agency BBDO Worldwide for 20 years, working with some of the largest brands in the world. He concludes that good ideas come from a willingness to have many bad ideas. To find a good idea, generate a chaotic array of possibilities, and apply them to your problem until something clicks. Robertson gives the example of the theme "You're not you when you're hungry" for a Snickers campaign. The theme became one of the most successful



Brainstorming can be done in small groups.

SKILL-DEVELOPMENT EXERCISE

Brainstorming about Empty Mall Retail Space

Your group assumes the role of a team of professionals for a developer and operator of shopping malls. In recent years shopping malls have lost considerable value. Online shopping has been one force reducing the number of tenants and shoppers found in malls. Vacant retail store space is found in many malls. Your brainstorming task is to identify a list of about six possible types of tenants for empty mall space. The tasks

could be framed as identifying new uses for empty mall space that would result in profitable rents.

Present your findings in a bulleted list to the rest of the class. Also make note of how your suggestions for attracting new tenants compare to the suggestions of the other class groups. The entire class might voice an opinion on which suggestion is the most likely to expand the market for rented mall space.

campaigns in advertising history, launched with a Super Bowl ad in 2010. The ad included the legendary Betty White being “tackled” in a football game.

Five teams of people were assigned the task of finding an advertising theme to revitalize Snickers. The team wrote loads of bad Super Bowl scripts. Buried inside one of the scripts was the line “You’re not you when you’re hungry.” To find an idea this powerful, the team needed to generate a huge number of bad ideas to identify a kernel of greatness.⁴⁶

4. *Set idea quotas.* A straightforward and effective technique for enhancing worker creativity is to simply demand that workers come up with good ideas. Being creative therefore becomes a concrete work goal. Thomas Edison used idea quotas, with his personal quota being one minor invention every ten days and a major invention every six months. Google company practice (not quite a formal policy) at one time permitted some technical employees to devote 20 percent of their time to thinking up great new ideas, even with an uncertain financial payoff. Note that this Google practice refers to a time quota for ideas, yet the time allotted to ideas is likely to result in generating ideas. Another aspect of forcing the generation of ideas at Google is an intranet that regularly collects fresh ideas from employees. Every employee spends a fraction of the workday on research and development. Two of the tangible outcomes of the intranet technique and the thinking time allotment are Gmail and AdSense.⁴⁷
5. *Form heterogeneous groups.* Forming heterogeneous groups can enhance creativity because a diverse group brings various viewpoints to the problem at hand. Key diversity factors include professional discipline, job experiences, and a variety of demographic factors. Diverse groups encourage diverse thinking, which is the essence of creativity.⁴⁸ The most influential aspects of diversity are inner qualities such as personality, values, and abilities, also known as deep-level diversity.⁴⁹ In building a diverse group for creativity, it would be helpful to choose people from different demographic and cultural groups who have a variety of personalities, values, and abilities.
6. *Create financial incentives.* A variety of laboratory studies have concluded that working for external rewards, particularly financial rewards, dampens creativity.⁵⁰ If you focus on the reward, you may lose out on the joy (internal reward) of being creative. In work settings, however, financial incentives are likely to spur imaginative thinking. Such incentives might include paying employees for useful suggestions and paying scientists royalties for patents that become commercially useful. For example, IBM is consistently one of the leading companies with respect to being awarded patents. IBM employees who are awarded patents are paid cash bonuses.

Even if internal motivation is important for creativity, external rewards and recognition are helpful. A group of researchers conducted both a field experiment and

a laboratory experiment about the effects of choice of rewards on an organization-wide suggestion program. Three reward choices were worth about \$2,500 each that could be given to the person who thought of the creative idea, shared with the group, or given to charity. A fourth reward was for the recipient to have the days off work he or she preferred in the following two months. Both studies showed that having a choice of rewards enhanced the number of creative ideas employees generated, and the creativity level of the ideas. Another finding was that rewards are especially powerful when employees have a creative personality.⁵¹

7. *Adjust architecture and physical layout.* Many companies restructure space to fire up creativity, harness energy, and enhance the flow of knowledge and ideas. Any configuration of the physical environment that decreases barriers to divergence, incubation, and convergence is likely to stimulate the flow of creative thinking.⁵² The reasoning is that creative thinking is more likely to be enhanced by cubicles rather than corner offices, by elevators rather than escalators, and by atriums rather than hallways. In short, creating the opportunity for physical interaction facilitates the flow of ideas, which in turn facilitates creative thinking. However, as described in Chapter 2, some workers dislike open work areas because it interferes with their concentration and creative thinking.
8. *Provide inspiration.* A leadership strategy for enhancing creativity and innovation is to inspire workers to think creatively. Inspiring creativity encompasses a wide range of behaviors, including establishing a permissive atmosphere. Similarly, when workers believe they are working for a cause, such as helping people plan their financial futures, or curing a disease, they are more likely to be creative. The unusual creativity of Elon Musk has inspired workers throughout the companies he heads, and those he has headed in the past, to think creatively.
9. *Seek feedback.* An effective way for managers to facilitate creativity is to encourage workers to seek feedback on their own creative performance. A conclusion derived from a multitude of analyses is that individuals can enhance their creative problem solving by actively seeking feedback on their work from various sources. The proactive behavior of actively seeking feedback is important because external sources may not always provide their feedback spontaneously or at the right time. It is also likely that the external sources, such as supervisors and coworkers, may not be aware of the employee's need for support.⁵³ An example of asking for feedback from an external source would be to present an idea to a coworker and ask, "Have you ever seen anything like this before?"

A caution about the role of feedback in creativity is that if the feedback is perceived to be threatening, creativity may decrease rather than increase. The problem is intensified when the feedback is unsought.⁵⁴ An example of feedback likely to be perceived as threatening would be, "That's a really stupid idea."

10. *Offer creativity training.* A standard approach to enhancing individual and organizational creativity is to offer creativity training to many workers throughout the organization. Much of creativity training encompasses the ideas already covered in this chapter, such as learning to overcome traditional thinking and engaging in some type of brainstorming. Various techniques are used to encourage more flexible thinking, such as engaging in child's play, squirting each other with water guns, and scavenger hunts. An extreme technique is to deprive participants of food and rest for 24 hours so their defenses are weakened, and they are then mentally equipped to "think differently." Other creativity training techniques are more cerebral, such as having participants solve puzzles and ask "what if" questions.

Creativity training would be of little value if creativity could not be taught. The comments of Wharton School professor Ron Schifft are representative about the teaching of creativity. He notes first that there are individual differences in creativity, with this ability following a normal distribution. Within these limits, he adds that, if you train yourself, you can become more creative. "Because creativity can be developed; it can be taught."⁵⁵

Implications for Managerial Practice

1. A widely recommended decision tool for finding the root cause of a problem is to ask a series of questions, called the *Seven Whys* (or sometimes *Five Whys*). By asking “why” seven times, you are likely to get to the core issue of a problem. For example, as a CEO you observe that turnover is way above average in one division. The questioning might proceed in this manner:

Question 1: “Why is turnover high?”

Answer 1: “Because we have loads of people who decide to leave the firm.”

Question 2: “Why are they leaving?”

Answer 2: “I guess they are not too happy.”

Question 3: “Why aren’t they happy?”

Answer 3: “They may not like the working conditions here too much.”

Question 4: “Why don’t they like the working conditions?”

Answer 4: “It’s kind of a high-pressure atmosphere.”

Question 5: “Why is it a high-pressure atmosphere?”

Answer 5: “The supervisors stay on people’s backs.”

Question 6: “Why do the supervisors stay on people’s backs?”

Answer 6: “Most of them think that the best way to get results is to keep the pressure on employees.”

Question 7: “Why don’t supervisors know more about supervising workers?”

Answer 7: “A lot of them need more training in managing people, or they shouldn’t have been chosen for supervisory positions in the first place.”

2. Learning to be more creative is like learning other skills: Patience and time are required. As a manager, by practicing techniques and attitudes, you will gain the confidence and skill to build a group (or company) where creative thinking is widespread. A desirable goal is to find a way to tap the creativity of everyone for whom you are responsible.⁵⁶
3. A basic approach to enhancing your own creativity is to give yourself some quiet time to think, and free up space in your brain to allow new ideas to emerge. Taking walks and meditating often enhance creativity because you have the opportunity to relax your brain.
4. To achieve more creativity in the organization or work groups, employees might be given the opportunity to schedule creative tasks in line with their chronotype. For example, the manager might suggest working on a problem that requires a creative solution when the employee feels at his or her mental peak.⁵⁷

Summary of Key Points

1. **Work through the decision-making model when faced with a major decision.** A decision takes place when a person chooses from among two or more alternatives in order to solve a problem. The decision-making model presented here incorporates the ideas that managers make decisions in a generally rational framework, yet intuition and judgment also enter into the model. The seven steps in the model are as follows: (1) identify and diagnose the problem, (2) establish decision criteria, (3) develop creative alternatives, (4) evaluate the alternatives, (5) choose one alternative, (6) implement the decision, and (7) evaluate and control.
2. **Identify and describe factors that influence the effectiveness of decision making.** Heuristics are often used to simplify decision making. A host of influences contribute to decision-making quality, including intuition, personality and cognitive intelligence, emotional intelligence, quality of information and Big Data, the application of artificial intelligence (AI), political considerations, crisis and conflict, the values of the decision maker, procrastination, and decision-making biases.
3. **Understand the nature of creative decision making in organizations.** Understanding the steps involved

in creativity can help a person become more creative and better manage creativity among others. The steps are as follows: (1) opportunity or problem recognition, (2) immersion, (3) incubation, (4) insight, and (5) verification and application.

Creative workers are different from others in several key areas. They typically have a broad background of knowledge and tend to be bright rather than brilliant. Both fluid intelligence and crystallized intelligence contribute to creativity. Creative people have a youthful curiosity and think divergently. Creative workers tend to have a positive self-image, including creative self-efficacy, and are often nonconformists who enjoy intellectual thrills, along with ambiguity and chaos.

For creativity to occur, three components must join together: expertise, creative-thinking skills, and internal motivation characterized by a passion for the task. Total absorption in the work, also known as the *experience of flow*, is also important. An environmental

need should be present, including facing a conflict, as well as encouragement from others and having creative coworkers. A positive mood also contributes to creativity, as do moderate time pressures.

4. **Enhance your creative problem-solving ability.** A unifying theme runs through all forms of creativity training and suggestions for creativity improvement: Creative problem solving requires an ability to overcome traditional thinking. Techniques for enhancing creativity include managerial support and encouragement, brainstorming, imposing idea quotas, generating loads of ideas including bad ones, forming heterogeneous groups, offering financial incentives for creative problem solving in work settings, and using a physical layout conducive to creative thinking. Also helpful are inspiration for creative thinking, seeking feedback on creativity, and creativity training.

Key Terms and Phrases

Decision, p. 115	Intuition, p. 118	Creativity, p. 125
Problem, p. 115	Self-efficacy, p. 119	Innovation, p. 125
Decision criteria, p. 116	Big Data, p. 120	Creative self-efficacy, p. 127
Heuristics, p. 118	Procrastinate, p. 123	Experience of flow, p. 127

Discussion Questions and Activities

1. Can you give an example of an outstandingly successful decision in business? Explain why you consider the decision to be an outstanding success.
2. A handful of businesspersons who have earned billions of dollars stand ready to, or already have, purchased a professional sports team. To what extent do you think emotions influenced their decision to purchase the team?
3. Which decision criteria are relevant for you in choosing a career?
4. Assume that you have \$2,000,000 available to start a new enterprise, and you use AI to help you decide on what type of business to start. What is your evaluation of the quality of the answer you receive from AI?
5. A technique for creative problem solving is to remind oneself of a problem just before going to sleep. Upon waking up, a good solution often presents itself. How does this technique relate to the steps in the creative process?
6. Plastic bags are under constant attack from environmentalists. Although these bags have not been eliminated, their use is restricted. How can manufacturers of plastic bags go about finding a creative solution to the threats to their industry?
7. Work together in a small group to reach a conclusion about several new products or services the world really needs. Explain why you need creative thinking to answer this question.
8. Recent experiments suggest that walking improves the free flow of ideas and creativity. If you can squeeze in the time, take a 30-minute walk sometime during the next week and observe if you can then think more creatively about any problem you are facing.
9. Many people contend that because an enormous amount of information is available on the Internet to solve most problems, the need for creative thinking has diminished. What is your opinion on this issue?
10. Ask an experienced worker what he or she believes is the most important action a manager can take to enhance creative thinking among group members. Compare the response you get with the information in this chapter.

CASE PROBLEM 5A: Real Estate Agent Bree Wants to Become More Creative

Thirty-year-old Bree is a commercial real estate agent, working for Coalition Properties in Vermont. Although she works for Coalition, the only money she earns is from sales commissions, usually about 6 percent of the sale price of a property. Bree also pays part of the advertising expenses for properties for which she is the listing agent.

Bree is earning enough money to keep her satisfied, but the owner of the agency, Courtney, is not totally satisfied with her performance. Courtney recently said to Bree during a review of monthly sales, “Bree, I want you to break through with some bigger sales. You are closing sales here and there, but Coalition needs some bigger sales to make a respectable profit.”

Bree responded, “I am not disputing what you say, but could you give me an example of the type of bigger sale you are referring to?”

“I’ve got a good example for you,” said Courtney. “We are the listing agent for a 35-acre plot on Castle Road that sits across from private homes and a senior residence. The property has been for sale for 20 years with no buyer yet. You haven’t even generated one lead for the property.”

Bree responded, “True enough, but that great big property had been sitting there for many years before I joined Coalition. The problem seems to be that the property is zoned for residential, and there are already enough housing developments close by. No developer wants to risk such a big development.”

“I think I see the problem,” said Courtney. “You would be earning more income for yourself and Coalition if you

were less conventional in your thinking. You are a valuable member of our team, but you would be even more valuable if you were a more creative real estate agent.”

With a quizzical expression, Bree said, “I am creative with respect to decorating my house, cooking, and choosing gifts for friends and family members. But being creative in commercial real estate sales is pretty tough. Either someone wants to buy a property or not. Let me think about how I can become more creative, and I’ll get back to you with my plan.”

Case Questions

1. What is your opinion of Bree’s belief that it is difficult to be creative in a field such as commercial real estate selling?
2. What practical steps might Bree take to become more creative in her selling?
3. What role should Courtney play in helping Bree become more creative as a real estate agent?

Associated Role Play

One student plays the role of Courtney, who meets with Bree to investigate whether she is improving her ability to think creatively. Courtney concentrates on the 35-acre vacant plot. Another student plays the role of Bree, who feels placed on the spot. Nevertheless, she will attempt to impress Courtney with her ability to think creatively about selling the vacant 35-acre plot. Observers to the role play might note if Bree is displaying creative thinking.

CASE PROBLEM 5B: Is AI Doing the Heavy Thinking for Our Managers?

Max, the division president of a technology products company, was speaking in person with Brittany, the division head of human resources, about a major concern. Max said, “I’m beginning to wonder if a few of our managers are using AI to take over their heavy thinking and decision making. It seems like they are using generative AI to prepare reports and tell them what to write.”

When Brittany asked for examples of generative AI taking over management decision making and thinking, Max uploaded three documents on his desktop computer. Excerpts from the documents are presented next.

Sales forecast for keyboards and mouse submitted by marketing manager Natasha:

The global keyboard and mouse market is expected to grow steadily in the next ten years. The drivers include increasing demand for gaming and ergonomic devices, the remote work movement, and online education.

According to a report in *Business Research Insight*, the gaming mouse and keyboards market size is projected to reach close to \$3 billion by 2031. Based on several reports, we infer that the keyboard and mouse market is large and growing, with significant potential for further expansion and diversification. This forecast, however, is subject to various uncertainties and risks such as changing consumer preferences and technological advances. This forecast should therefore be used with caution and updated regularly with fresh data and information.

Performance review for poor-performing business analyst submitted by finance manager Alex:

Jonathan has been employed at our company as a business analyst for two years. His main responsibilities include gathering and analyzing business requirements, developing and maintaining documentation, and communicating with stakeholders. Jonathan has failed

to meet the expectations of his role in several ways. He lacks initiative, creativity, and professionalism in his work. He has demonstrated poor communication, collaboration, and problem-solving skills.

We recommend that Jonathan take the initiative to learn new skills, or improve his existing ones, such as studying books or articles, and attending workshops or seminars. Jonathan should be more professional and ethical in his work, following standards and guidelines, respecting confidentiality, and avoiding inappropriate and unethical behavior.

Apology for late shipment sent to customer by sales manager Laticia:

I am sorry to learn that your shipment of our commercial printer was very late. We understand how frustrating it can be to wait for a shipment you ordered and not receive it on time. We apologize for any inconvenience that late shipment may have caused you. As a gesture of goodwill, we would like to offer you a 10 percent discount on your next purchase from our company. We value your business and hope that you will continue to shop with us for technology equipment.

Britanny said, “The three samples you give me of suspected AI-generated reports seem to be a little off-the-shelf, but not outrageously bad. There is software available to indicate whether a report has been generated

by AI. Maybe you should use that software when you are in doubt about the authenticity of a report a manager writes.”

Max said, “I don’t want to spy on my managers, but I agree we should do something. Maybe you and I should develop a policy about the managerial use of AI to write reports.”

Case Questions

1. Why should Max be concerned that several of his managers might be using AI to write their reports?
2. Why should Max involve HR in his decision making about managers using AI to write reports for them?
3. Write about a 25-word policy for managers at this company to guide them in the use of AI to write reports for them.

Associated Role Play

One student plays the role of Max, who is becoming increasingly worried that several of his managers are using AI to replace their own thinking and judgment. He meets today with Britanny to explain why he is worried. Another student plays the role of Britanny, who is a strong AI advocate and thinks that Max is too conventional in his thinking about managers writing reports.

Endnotes

1. Original story created from facts and observations in the following sources: “Who We Are,” *Vivo Living* (www.vivo.living.com), 2024, pp. 1–6; “Vivo Living Revenue and Competitors,” *Gowjo* (www.grojo.com), 2025, pp. 1–3; “It’s Value Housing: Reasonable Housing”: Vivo Living’s President on Converting Hotels into Apartments,” *Yahoo Finance Video* (www.yahoo.com), December 30, 2020, pp. 1–8; Will Parker and Konrad Putzier, “Empty Hotels Get New Life Recast as Rental Apartments,” *The Wall Street Journal*, December 23, 2020, p. B6.
2. Survey cited in Emma Seppala, “How Senior Executives Find Time to Be Creative,” *Harvard Business Review* (https://hbr.org), September 12, 2016, pp. 1–2.
3. “Starbucks’ Schultz Played a Hunch,” *Executive Leadership*, July 2004, p. 8.
4. Quoted in “How to Succeed in 2005,” *Business 2.0*, December 2004, p. 118.
5. Gerd Gigerenzer and Reinhard Selten (eds.), *Bounded Rationality: The Adaptive Toolbox* (Cambridge, MA: MIT Press, 2001).
6. Cited in Angela Chen, “To Achieve Success, Be More Logical and Take a Scientific View of Your Emotions,” *The Wall Street Journal*, December 31, 2013, p. D1.
7. Laura Huang, “How CEOs Hone and Harness Their Intuition,” *Harvard Business Review* (https://hbr.org), July 17, 2025, pp. 1–6.

8. Quoted in Sean P. Murray, “Jeff Bezos and the Role of Intuition in Decision Making,” *RealTime Performance* (www.realtimeperformance.com), October 9, 2018, pp. 1–5.
9. Adam Brandenburger, “Strategy Needs Creativity: An Analytic Framework Alone Won’t Reinvent Your Business,” *Harvard Business Review*, July–August 2019, pp. 58–65.
10. Matthew Kazan “Barnes & Noble to Open 60 New Stores in 2026,” *FOX Business* (www.foxbusiness.com), December 23, 2025, p. 1.
11. Daniel Kahneman, Dan Lovallo, and Olivier Sibony, “A Structured Approach to Strategic Decisions: Reducing Errors in Judgment Requires a Disciplined Process,” *MIT Sloan Management Review* (https://sloanreview/mit.edu), Spring 2019, pp. 1–11.
12. Michael A. West and James L. Farr (eds.), *Innovation and Creativity at Work: Psychological and Organizational Strategies* (New York: Wiley, 1990).
13. Rasmus Hougaard, Jacqueline Carter, and Gitte Dybkjaer, “Spending 10 Minutes a Day on Mindfulness Subtly Changes the Way You React to Everything,” *Harvard Business Review* (https://hbr.org), January 18, 2017, pp. 1–3.
14. Rachel Evans and Claire Boston, “Crunching Data to Predict Stores’ Death,” *Chicago Tribune*, October 22, 2017, p. 3.

15. Thomas H. Davenport and D. J. Patil, "Data Scientist: The Sexiest Job of the 21st Century," *Harvard Business Review*, October 2012, p. 10.
16. "When Future Jobs Will Require Data Analytics Skills," *Knowledge at Wharton* (<http://knowledge.wharton.upenn.edu>), July 24, 2019, p. 3.
17. Andrew McAfee and Erik Brynjolfsson, "Big Data: The Management Revolution," *Harvard Business Review*, October 12, 2012, p. 62.
18. Interview with Brian Krzanich, "Companies Must Use AI—or Else," *The Wall Street Journal*, October 24, 2017, p. R9.
19. "AI Decision Making: What Is It, Benefits & Examples," *intellias* (www.intellias.com), July 16, 2024, pp. 1–9.
20. José Parra-Moyano, Patrick Reinmoeller, and Karl Schmedders, "Research Executives Who Used Gen AI Made Worse Predictions," *Harvard Business Review* (<https://hbr.com>), July 1, 2025, pp. 1–8.
21. Nan Jia, Xueming Luo, Zheng Fang, and Chengcheng Liao, "When and How Artificial Intelligence Augments Employee Creativity," *Academy of Management Journal*, February 2024, pp. 5–32.
22. Dan Lovallo and Daniel Kahneman, "Delusions of Success: How Optimism Undermines Executives' Decisions," *Harvard Business Review*, July 2003, p. 56.
23. John S. Hammond, Ralph L. Keeney, and Howard Rafia, "The Hidden Traps in Decision Making," *Harvard Business Review*, September–October 1998, p. 50.
24. Max H. Bazerman, *Judgment in Managerial Decision Making*, 5th ed. (New York: Wiley, 2002), pp. 31–33.
25. David Antons and Frank T. Piller, "Opening the Black Box of 'Not Invented Here': Attitudes, Decision Biases, and Behavior Consequences," *Academy of Management Perspectives*, May 2015, p. 193.
26. Yeun Joon Kim and Junha Kim, "Does Negative Feedback Benefit (or Harm) Recipient Creativity? The Role of the Direction of the Feedback Flow," *Academy of Management Journal*, April 2020, p. 584.
27. Sarah Harvey and James W. Berry, "Toward a Meta-Theory of Creativity Forms: How Novelty and Usefulness Shape Creativity," *Academy of Management Review*, July 2023, p. 504.
28. Robert J. Sternberg, "Creativity as a Decision," *American Psychologist*, May 2002, p. 376.
29. Juanita Weaver, "The Mental Picture: Bringing Your Definition of Creativity into Focus," *Entrepreneur*, February 2003, p. 69.
30. Pamela Tierney and Steven M. Farmer, "Creative Self-Efficacy: Its Potential Antecedents and Relationship to Creative Performance," *Academy of Management Journal*, December 2002, pp. 1137–1148.
31. Quoted in "The 100 Most Creative People in Business," *Fast Company*, June 2017, p. 39.
32. Teresa M. Amabile, "How to Kill Creativity," *Harvard Business Review*, September–October 1998, pp. 78–79.
33. Catalina Daniels and James H. Sherman, "Where the Greatest Business Ideas Come From," *Entrepreneur*, January–February 2024, pp. 20–21.
34. Mihaly Csikszentmihalyi, "If We Are So Rich, Why Aren't We Happy?" *American Psychologist*, October 1999, p. 824.
35. Sally Beatty, "The 2,500-Watt Makeover," *The Wall Street Journal*, August 5, 2005, p. W1.
36. Dirk Deichman and Markus Baer, "A Recipe for Success? Sustaining Creativity Among First-Time Creative Producers," *Journal of Applied Psychology*, January 2023, pp. 100–113.
37. Spencer Huber Harrison, Mel Yingying Hua, and Derek Deasy, "Scar Tissue That I Wish You Saw: Creativity Scars and Their Impact on Creative Work," *Academy of Management Discoveries*, Vol. 11, No. 4 (www.journal.aom.org), December 22, 2025, pp. 1–10.
38. Michael R. Parke, Myeong-Gu Seo, and Ellad N. Sherf, "Regulating and Facilitating: The Role of Emotional Intelligence in Maintaining and Using Positive Affect for Creativity," *Journal of Applied Psychology*, May 2015, pp. 917–934.
39. Research cited in Daniel Kahneman, Olivier Sibony, and Case R. Sunstein, "Good Moods Often Lead to Bad Decisions," *The Wall Street Journal*, May 15–16, 2021, p. C3.
40. Research cited in Bridget Murray, "A Ticking Clock Means a Creativity Drop," *Monitor on Psychology*, November 2002, p. 24; Teresa M. Amabile, Constance N. Hadley, and Steven J. Kramer, "Creativity under the Gun," *Harvard Business Review*, August 2002, pp. 52–61.
41. Jana Kühnel, Ronald Bedlow, and Markus Kiefer, "There Is a Time to Be Creative: The Alignment between Chronotype and Time of Day," *Academy of Management Journal*, February 2022, pp. 218–247.
42. Quoted in John C. Maxwell, "The War of Ideas: May the Best Idea Win," *Success*, September–October 2020, p. 33.
43. Jeremy Utley and Perry Klebahn, "The Brainstorm as We Know It Doesn't Work: Here's What Does," *Entrepreneur*, December 2022, pp. 78–86.
44. Dori Meinert, "Brainstorming Gone Bad," *HR Magazine*, April 2016, p. 14.
45. Gleb Tsipursky, "The Death of Brainstorming," *People + Strategy*, Fall 2024, pp. 26–31.
46. Andrew Robertson, "Where the Best Marketing Ideas Come From," *Entrepreneur*, September–October 2025, pp. 18–20.
47. Coby Skonord, "Google's 20% Time Program—A Measure of Success and a Cautionary Tale," *Idea Wake* (www.ideawake.com), December 30, 2024, pp. 1–9.
48. Leigh Thompson, "Improving the Creativity of Organizational Work Groups," *Academy of Management Executive*, February 2003, p. 102; G. Pascal Zachary, "Mighty Is the Mongrel," *Fast Company*, July 2000, p. 272.
49. Tomas Chamorro-Premuzic, "Does Diversity Actually Increase Creativity?" *Harvard Business Review* (<https://hbr.org>), June 22, 2017, pp. 1–6.
50. Beth A. Hennessey and Teresa M. Amabile, "Reward, Intrinsic Motivation, and Creativity," *American Psychologist*, June 1998, pp. 674–675.

51. Jing Zhou et al., "Enhancing Employee Creativity: Effects of Choice, Rewards and Personality," *Journal of Applied Psychology*, March 2022, pp. 503–513.
52. Dorothy Leonard and Walter Swap, "Igniting Creativity," *Workforce*, October 1999, pp. 87–89.
53. Katleen E. M. De Stobbeleir, Susan J. Ashford, and Dirk Buyens, "Self-Regulation of Creativity at Work: The Role of Feedback Seeking Behavior in Creative Performance," *Academy of Management Journal*, August 2011, pp. 811–831.
54. Kim and Kim, "Does Negative Feedback Benefit (or Harm)," pp. 584–612.
55. "Can Creativity Be Taught?" *Knowledge at Wharton* (<http://knowledge.wharton.upenn.edu>), August 27, 2014, pp. 1–3.
56. Juanita Weaver, "Food for Thought," *Entrepreneur*, March 2003, pp. 62, 63.
57. Kühnel, Bedlow, and Kiefer, "There Is a Time to Be Creative," p. 241.

