

Learning versus performance goals: When should each be used?

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Executive Overview

Contrary to the extant thinking on motivation in the workplace, we argue that performance or outcome goals can have a deleterious effect on one's performance. We demonstrate that in situations where primarily the acquisition of knowledge and skills rather than an increase in effort and persistence is required, a specific challenging learning rather than an outcome goal should be set. A learning goal draws attention away from the end result. The focus instead is on the discovery of effective strategies or processes to attain desired results. The practical implications of learning goals for leadership, performance appraisal, and professional development are explained.

Nearly all executives understand the importance of goal setting. And yet, most organizations have no idea as to how to manage specific challenging goals, or what are sometimes labelled "stretch goals."¹ Some organizations may ask employees to double sales or reduce product-development time from years to months, but fail to provide them the knowledge to meet these challenging goals. The assignment of ambitious goals without any guidance on ways to attain them often leads to stress, pressures on personal time, burnout, and in some instances unethical behaviour. It is both foolish and immoral for organizations to assign "stretch goals," and then fail to give employees the means to succeed, yet punish them when they fail to attain the goals.

The Lucent scandal is a compelling example of what can happen when people feel undue pressure to "make the numbers." Richard McGinn, former CEO of Lucent, prided himself on imposing "audacious" goals on his managers, believing that the push for performance would produce "dream" results. In 2000, McGinn pushed his managers for results they could not deliver—not, apparently, without some crossing a legal line.² The pressures that McGinn applied were described in a complaint that a former Lucent employee filed, which charged that McGinn and the company had set unreachable goals that caused them to mislead the public. Empirical research provides support for

this assertion. High performance outcome goals sometimes cause people to distort the truth regarding goal attainment.³

These findings point to a fault in the type of goal that was set. In the above examples, a performance outcome goal was set. Setting a specific challenging learning goal, on the other hand, is likely to be far more effective for discovering radical, out-of-the-box ideas or action plans that will enable organizations to regain a competitive edge. For example, consider what Arthur Martinez, a former CEO of Sears, Roebuck and Company, wrote in *The Hard Road to the Softer Side*:⁴

Sears was in love with its past and entrapped by it at the same time . . . these kinds of things happen to institutions all the time. They keep playing yesterday's agenda without recognizing that the world has changed and that it continues to change every minute of the day. They ride their old horses onto a modern battlefield, then puzzle about why they are losing a war to an enemy who has tanks and machine guns.

Martinez concluded that had Sears realized that the competitive landscape was changing, had Sears placed a stronger emphasis on learning what was changing and how to respond to these changes, had Sears examined information that

was critical to the decisions that needed to be made prior to the emergence of the crisis, and had Sears sought feedback on their strategic responses, then Sears might not have found itself in a "near-death" situation.

This paper explains when to set performance versus learning goals to increase the productivity of the workforce. With a performance goal, the goal is framed so that the focus is on performance (e.g., decrease costs by 10 percent this quarter). In contrast, the instructions regarding a learning goal are framed to focus attention on knowledge or skill acquisition (e.g., find ten ways of developing a relationship with end-users of our products).

Performance Goals: Examples of Success

The American Pulpwood Association found that goal setting was an effective way to increase the productivity of loggers.⁵ Pulpwood crews were matched and assigned to either an experimental goal-setting group or a control group. The sawhands were given a tallymeter to keep track of the number of trees they cut down. The crews with a specific challenging goal immediately out-performed those in the control group. The assignment of goals resulted in these workers seeing their work as challenging and meaningful. Hence, job attendance sky-rocketed as the employees began to take pride in comparing their performance relative to the goal. They left work each day with a sense of accomplishment and a sense of personal effectiveness as a result of goal attainment.

The Weyerhaeuser Company found that setting specific high goals leads to high performance of employees in highly complex jobs.⁶ Those engineers and scientists in the R & D division who received praise, public recognition, or a monetary incentive, but who did not set goals, performed no better than those who were in a control group. Those who participated in setting a specific high-performance goal regarding their performance appraisal increased their performance significantly. In fact, they set significantly higher goals than was the case where the boss assigned them unilaterally. The higher the goal, the higher one's performance.

The positive effects of setting specific challenging performance goals, in addition to organizational settings, have also been shown in sports and in health care. For example, Swimmer John Naber, winner of four gold medals and one silver medal at the 1976 Olympics, attributed his success, in part, to the performance goals he set. His distal goal was to win a gold medal. He then set proximal or sub-goals for each training session—to gain a

few hundredths of a second each day, week, month, and year over a time span of several years in preparation for the Olympics. In the self-management of one's health, individuals who set specific challenging goals in a weight loss or smoking cessation program lose more weight or smoke less than individuals who strive to "do their best" to do so.⁷ When goals are set, the dieters and smokers are able to evaluate their on-going goal-directed behaviour accurately. Remedial action is taken when there is a discrepancy between the goal that is set and one's actual performance. In contrast, an abstract goal to "do one's best" does not provide a clear marker of progress.

Goal Mechanisms

Why does goal setting increase an employee's effectiveness? First, specific challenging performance goals affect an employee's choice as to what to focus on, as well as effort and persistence in doing so. A goal directs an employee's attention toward actions which are goal relevant at the expense of actions that are not relevant. Second, employees adjust their effort to the difficulty level of the goal. Third, they persist in their effort until the goal is reached.⁸ These three motivational mechanisms alone, however, are not always sufficient to attain a goal.

A fourth benefit of goal setting is cognitive rather than motivational. On those tasks that are complex for the individual, goal setting stimulates the development of task strategies, based on one's knowledge, to attain it. For example, the Weyerhaeuser Company discovered that unionized truck drivers who had been assigned a specific high-performance goal in terms of the number of trips per day from the logging site to the mill started to work "smarter rather than harder."⁹ Upon receiving the goal, truck drivers developed strategies to attain it. This included using radios to coordinate their efforts so that there would always be a truck at the logging site when logs were available to be loaded. Performance increased because of productive reasoning on their part regarding the strategies necessary to attain the goal. In short, these people were drawing upon their existing knowledge to attain their goal. All of them already knew how to use a radio for communication purposes. Because they purposefully chose to apply this knowledge, productivity increased.

Motivation versus Knowledge Acquisition

Goal setting is viewed by most executives and behavioral scientists as a motivational technique.

The tasks that have been studied by behavioral scientists have generally been straightforward for the individual so that the effect of a goal on an employee's choice, effort, and persistence could be easily assessed. But when the task is not straightforward for people, are there still motivational benefits from setting a specific challenging performance goal? What happens when learning in addition to effort and persistence is critical to one's success? What happens when people lack the requisite knowledge to master a task? Both anecdotal evidence and empirical research provides a thought-provoking answer.

The ordeals of Wagner Dodge and the 15 firefighters under his command are a compelling illustration of the difference between working hard ("motivation") and working smart ("knowledge acquisition"). A hellish, fast-moving forest-and-grass fire caused them to run for their lives. With less than a minute remaining until the fire would swallow the group, Dodge discovered a way to attain their goal for survival. He started an "escape fire" that cleared a small area of flammable prairie grass and bushes. As Michael Useem explained in his book, *The Leadership Moment*, Dodge survived because "he had literally burned a hole in the raging fire."¹⁰ Dodge's crew ignored his order to jump inside the expanding ring of fire. Instead they tried in vain to outrun the blaze. Despite their high motivation to survive, they died. Working smart, that is, knowledge acquisition, led to a far better result for Dodge than "working hard."

In the context of running a successful business, Michael Dell, CEO of Dell Computer Corporation, emphasizes the importance of information and knowledge acquisition:¹¹

It's all about knowledge and execution. Traditionally, it was thought that lack of capital was the barrier to entry into a new competitive market. Take a look around, and you'll see that's just not true anymore. Information will increasingly become both a tool to help businesses hone their competitive edge and a weapon to protect them against the competition. Besides Dell, there are countless successful companies that are thriving now despite the fact that they started with little more than passion and a good idea. There are also many that failed, for the very same reason. The difference is that the thriving companies gathered the knowledge that gave them a substantial edge over their competition, which they then used to improve their execution, whatever their product or service. Those that didn't simply didn't make it.

In sum, a person's quest to be effective is influenced by one's ability as well as one's motivation. Performance is a function of creative imagination or learning, in addition to sheer effort and persistence. This is particularly true on tasks where the person lacks the requisite knowledge or skill to master it. Thus the answer to the three previous questions is that there can be a downside to setting a performance goal.

Downside to Performance Outcome Goals

Knowledge acquisition before a performance outcome goal is set can be critically important. Setting a specific challenging performance goal has a detrimental effect on a person's effectiveness in the early stages of learning.¹² This is because in the early stage of learning, before effective performance routines have been identified and have become automatic, a person's attention needs to be focused on discovering and mastering the processes required to perform well, rather than on the attainment of a specific level of performance. The attentional demands that can be imposed on people are limited. Trying to attain a specific challenging performance goal places additional demands on people, so much so that they are unable to devote the necessary cognitive resources to mastering the task. A performance outcome goal often distracts attention from the discovery of task-relevant strategies. For example, focusing on a golf score of 95 by novices may prevent them from focusing on the mastery of the swing and weight transfer and using the proper clubs necessary for attaining that score.

In sum, interventions designed to engage motivational processes may impede task learning when presented prior to an understanding of what the task is about. In these instances, cognitive resources necessary for task understanding are diverted toward self-regulatory activities. Because people have few spare resources at this phase of skill acquisition, these self-regulatory activities can provide little benefit for learning.¹³

In addition, the assignment of a specific challenging performance goal makes some people so anxious to perform at a high level that they scramble to discover the task-relevant strategies in an unsystematic way. In doing so, they fail to learn in a timely fashion the most efficient ways to accelerate their effectiveness.¹⁴ For example, a novice golfer might start switching from one iron to another with the vain hope of attaining the desired score.

Learning versus Performance Outcome Goals

That setting specific challenging performance goals can sometimes lead to worse performance than urging individuals to do their best is at first glance astonishing in that this conclusion is contrary to the weight of over a quarter of a century of accumulated findings in the behavioral sciences. For at least three decades, research in domains ranging from health to organizational settings has shown that goal setting is a powerful motivational technique that truly works. As noted earlier, what is common to these findings is that an employee's ability to attain the goal was seldom if ever an issue. Setting high performance goals affected the person's desire to draw upon extant knowledge and skills to become a high performer. Hence, these studies show again and again that a performance goal influences choice, effort, and persistence to attain it—the three cornerstones of motivation.¹⁵ However, what is often forgotten is that high performance is a function of one's ability as well as one's motivation. Consequently, we speculated that tasks for which minimal prior learning or performance routines exist, or tasks where strategies that were once effective suddenly cease to be so, relocate the purpose or benefit of goal setting from one of primarily motivation to that of knowledge acquisition, environmental scanning, and seeking feedback. In situations where primarily learning rather than an increase in motivation (e.g., effort or persistence) is required for an employee to be effective, setting a specific challenging goal in terms of a performance level to be attained is not likely to be prudent. Perhaps a specific high-learning goal should be set instead. For example, a novice golfer should consider setting a high learning goal rather than a high performance outcome goal in terms of learning how to hold a club, when to use a specific iron, when to use an iron versus a wood, when to hit the ball a short distance rather than a long one, etc. In short, the novice golfer must learn how to play the game before becoming concerned with attaining a challenging performance outcome (e.g., score equals 95).

To test our idea, we examined the effects of learning versus performance outcome goals using a complex business simulation, namely, the Cellular Industry Business Game (CIBG), where people were randomly assigned to conditions. Among the advantages of using a business simulation is that the results of a person's reasoning occur much faster than in a day-to-day organizational setting.

The CIBG is an interactive, computer-based simulation that is based on the events that occurred in

the U.S. cellular telephone industry.¹⁶ The simulation uses a complex set of formulas to link the various strategic choices to performance outcomes. Formulas vary over time to reflect the changes that occurred in the industry. The CIBG consists of 13 rounds of decision making, each corresponding to a year of activity. Participants were asked to make decisions concerning ten areas of activity during each round. Examples of the strategic options are pricing, advertising, sales-force, cost containment, finance, geographic scope, and alliances with other companies. Each area of activity allowed numerous choices. For example, in the finance area, participants could raise funds by issuing bonds, issuing public shares, or borrowing from the bank; pay down debt on any one of the three fund-raising methods; or issue dividend payments.¹⁷

The evolution of the cellular telephone industry was predetermined in the simulation. For example, during the first eight decision periods (simulating the industry's first eight years) competition was restricted on a regional basis. Following year eight, however, the telecommunications industry experienced a radical environmental change in the form of deregulation. Hence, participants in the simulation were given several messages warning that deregulation was likely to occur. The strategic options that were successful before the deregulation ceased to be as effective. Thus, to maintain or increase market share, participants needed to discover a new set of effective strategies following round eight. This aspect of the CIBG simulation reflects a business environment, where past success strategies are by no means a guarantee for future success.

The participants assigned a specific high-learning goal were told to identify and implement six or more strategies to increase market share. The results of using this CIBG simulation revealed that:¹⁸

1. Performance was highest for individuals with a specific high learning goal. The market share achieved by those with a learning goal was almost twice as high as those with a performance outcome goal. There was no significant difference in performance between individuals with a performance goal, set in terms of total market share (21 percent) to be attained, or those who were simply urged to do their best.
2. Individuals who had a learning goal took the time necessary to acquire the knowledge to perform the task effectively. They took the time to analyze the task-relevant information that was available to them.
3. Those with a learning goal were convinced that

they were capable of mastering the task. This suggests that the increase in self-efficacy resulting from a learning goal occurs as a result of the discovery of appropriate strategies for task mastery, whereas a performance goal, as noted previously, can lead to a "mad scramble" for solutions.¹⁹

4. Hence, not surprisingly, those with a learning goal had higher commitment to their goal than did those with a performance goal. The correlation between goal commitment and performance was also significant.

These research findings are consistent with the observations of Arthur Martinez, Wagner Dodge, Michael Dell, Michael Eisner, and Howard Schultz cited throughout the paper.

Why Learning Goals?

How does a learning goal differ from a performance-outcome goal? What explains the superiority of a learning goal over a performance goal on a task that is complex for an individual? How can specific challenging learning goals be applied in business settings?

The primary distinction between a performance and a learning goal is the framing of the instructions given to employees. Hence, the difference between these two types of goals is first and foremost a "mindset." The respective instructions focus attention on two different domains—motivation versus ability. A performance goal, as the name implies, frames the instructions so that an employee's focus is on task performance (e.g., attain 20 percent market share by the end of the next fiscal year). The search for information to attain the goal is neither mentioned nor implied because knowledge and skills are considered a given on tasks that require primarily choice, effort, or persistence on the part of the people who have been assigned the goal. Similarly, a learning goal, as the name implies, frames the instructions in terms of knowledge or skill acquisition (e.g., discover three effective strategies to increase market share). A learning goal draws attention away from the end result. The focus is on the discovery of effective task processes. Once an employee has the knowledge and skills necessary to effectively perform the task, a specific challenging performance goal should be set to direct attention to the exertion of effort and persistence required to achieve it. The performance goal cues individuals to use strategies or performance routines that the person has learned previously are effective. Setting a learning goal on a task that is relatively straightforward for an in-

dividual wastes time, and is ineffective in that the person has already mastered the requisite performance routines and is aware of the requisite job behaviors.²⁰ In short, learning goals help people progress to the point where performance outcome goals become beneficial for increasing one's effectiveness. The focus of a learning goal is to increase one's knowledge (ability); the focus of a performance goal is to increase one's motivation to implement that knowledge. Therefore, both learning and performance goals are needed to be successful. But, as noted earlier, our research shows that a performance goal should not be set until an employee has the knowledge to attain it.

Practical Applications

Based on our findings, as well as the experiences of the CEOs whom we have cited, there are at least three inter-related areas where the application of learning goals should prove particularly helpful in improving performance.

Leadership

Jack Welch stated that, "An organization's ability to learn and translate that learning into action is the ultimate competitive advantage . . . I wish we'd understood all along how much leverage you can get from the flow of ideas among all business units . . . the enormous advantage we have today is that we can run GE as a laboratory for ideas."²¹

Three examples suggest the benefits of a leader focusing employee attention on the attainment of learning goals. First, when Andy Grove was CEO at Intel Corporation, he was obsessed with learning as much as possible about the changing environment. In Grove's own words, "I attribute Intel's ability to sustain success to being constantly on the alert for threats, either technological or competitive in nature."²² Second, Sam Walton continued to refine his business strategies and discover ways that he could improve his stores. He never stopped learning from competitors, customers, and his own employees. He believed that there was at least one good idea he could learn, even from his worst competitor. Walton passed on this philosophy to his employees. As Kurt Bernard, a retailing consultant, noted:²³

When he meets you . . . he proceeds to extract every piece of information in your possession. He always makes little notes. And he pushes on and on. After two and a half hours, he left, and I was totally drained. I wasn't sure what I

had just met, but I was sure we would hear more from him.

Leaders such as Welch, Grove, and Walton would increase the effectiveness of their workforce if they systematically set specific high learning goals to be attained regarding the sharing of ideas among divisions, identifying potential threats in the environment, or extracting ideas from competitors, customers and employees.

Third, the primary use of learning goals at Goldman Sachs, as described by Steve Kerr, is to develop present and future leaders.²⁴ For example, a sales manager might be asked to join or even lead a taskforce whose goal is to discover a new process for product development. People are developed through the use of assigned specific learning goals that require them to go outside their comfort zone.

Performance Management

Coca Cola Foods and PricewaterhouseCoopers (PWC) are among the many companies that have incorporated goal setting into their coaching and mentoring practices. The goals are typically performance outcomes to be attained (e.g., increase client revenue by 18 percent) or they are behavioral goals that are within the employees' repertory of knowledge and abilities to increase in frequency (e.g., communicate the objectives of the program to the people with whom you work, or hold people accountable for their technical levels of performance). Recognizing that this approach is not effective for every employee, learning goals are also set at PWC. For example, many organizations, including PWC, hire job applicants for their aptitude rather than their existing skills. New employees, therefore, benefit from mentors who actively help them discover ways to develop their competencies within the firm, and who assign them specific high learning rather than performance goals. Employees who are assigned specific challenging learning goals in the early stages of discovering how to execute the various aspects of their job, typically outperform those who are immediately given specific high-performance targets to attain.

Learning goals are also appropriate for seasoned managers. For example, those who operate in globally diverse organizations find it fruitful to focus on ways to effectively manage myriad social identity groups so as to minimize rigidity, insensitivity, and intolerance within a multicultural workforce.²⁵ Newly formed work teams, especially culturally diverse teams, need time to gel. Ilya Adler observed that managers view, "the cultural issue

as an additional burden to the already difficult task of making a team function effectively."²⁶ Focusing on the end result before difficulties in team dynamics have been ironed out can be detrimental to the team's performance. Thus, a team-leader may be well advised to focus on the discovery of 3-5 strategies, processes, or procedures for accelerating effective interaction and teamwork, particularly ways to foster understanding of local customs and values, develop mutual understanding and trust, and decide how team members are going to work together on sundry tasks.²⁷ In contrast, assigning a culturally diverse work team a specific challenging performance goal to attain before the team's rules of conduct have become accepted is likely to lead to prolonged "storming" and "norming." Indeed, it is not uncommon to see culturally diverse teams spend more time working out their differences than doing the actual work.

Professional Development

Jack Welch often moved his top executives from one functional business area to another.²⁸ Similar to the mentoring practice at PWC, he did this with the purpose of broadening their knowledge base. When this is done, employees should be asked to discover a specific number of ideas that would help them improve the performance of their respective businesses. Jack Welch also introduced Work-Out, a forum that was intended to share knowledge between management and employees. Facilitators of these types of sessions should be asked to set a goal of discovering a specific number of ideas or strategies that will improve organizational effectiveness. Other executives also ensure the on-going professional development of their senior executives through job rotation. The purpose of the rotation is to "shake the executives up," provide them with opportunities to learn new perspectives, get them out of their comfort zones, and develop greater creativity. To ensure that this occurs, specific learning goals should be set to ensure that the broad perspective to which the executives are exposed actually helps the company to make decisions in a coherent fashion.²⁹

Taking the Time to Learn

Today's workforce continues to be under intense pressure to produce tangible results. They are in a "performance mode."³⁰ This is a plus when known performance routines continue to be effective, and when the issue is fostering the conditions for a highly motivated workforce. In such instances, countless studies in the behavioral sciences sup-

port the significant motivational benefits of setting specific challenging performance goals. However, a high performing workforce is a function of both high ability and high motivation. This is particularly true in today's business environment in which organizations face rapidly changing technologies, information overload, escalating competitive pressures, and a host of other challenges. Hence the importance of knowing that learning and performance goals differ in their purposes. They differ in the resulting behavior/actions required to attain them. They differ in their appropriateness for increasing an organization's effectiveness. The purpose of a learning goal is to stimulate one's imagination, to engage in discovery, and to "think outside the box," whereas the purpose of a performance goal is to choose to exert effort, and to persist in the attainment of a desired objective or outcome using the knowledge one already possesses. Thus the behavior of a person with a learning goal is to systematically search for new ideas, actively seek feedback, be reflective, and execute a specific number of ideas in order to test newly formed hypotheses. The resulting behavior of a person with a performance goal is to focus on known ways to quickly implement knowledge and skills that have already been mastered. When the strategy for an organization is already known, and the ways to attain it have been deciphered, setting performance goals for an individual or team is appropriate. When an effective strategy requires innovation that has yet to emerge, specific high learning goals should be set.

Acknowledgement

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Endnotes

¹ Sherman, S. Stretch goals: The dark side of asking for miracles. *Fortune*, 13 November, 1995, 231-232; Kerr, S., & Landauer, S. 2004. Using stretch goals to promote organizational effectiveness and personal growth. *Academy of Management Executive*, 18(4), 134-39. Steve Kerr is an organizational psychologist formerly at the General Electric Company (GE) and now Chief Learning Officer and a Managing Director at Goldman Sachs.

² Loomis, C. The whistleblower and the CEO. *Fortune*, 7 July, 2003, 88-96.

³ Research reported in the Academy of Management Journal supports Loomis' interpretation of the culture in Lucent. Schweitzer, M.E., Ordonez, L., & Douma, B. 2004. Goal setting as a motivator of unethical behavior. *Academy of Management Journal*, 47: 422-432.

⁴ Martinez, A.C., & Madigan, C. 2001. *The hard road to the softer side. Lessons from the transformation of Sears*. New York, NY: Crown Business.

⁵ Latham, G.P., & Kinne, S.B. 1974. Improving job performance

through training in goal setting. *Journal of Applied Psychology*, 59: 187-191. For reviews of goal setting theory, see Locke, E.A., & Latham, G.P. 1990. *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall; Locke, E.A., & Latham, G.P. 2002. Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57: 705-717; Mitchell, T.R., & Daniels, D. 2003. Motivation. In W.C. Borman, D.R. Ilgen, and R.J. Klimoski (Eds.), *Handbook of psychology, 12: Industrial organizational psychology*. New York: Wiley & Sons, Inc. Goal setting theory is derived from more than 500 laboratory and field experiments. In short, the theory states that (a) people with specific challenging goals have higher performance than those who do not set goals, as well as those who embrace abstract goals such as "to do my best." (b) In addition, given goal commitment, there is a positive, linear relationship between goal difficulty and the level of performance. This linear relationship levels off only when people reach the limits of their cognitive and motor abilities. (c) Praise, feedback, and participation in decision making only increase a person's effectiveness to the extent that they lead to the setting of and commitment to a specific high goal. But, the theory yields no clues as to when to set performance versus learning goals.

⁶ Latham, G.P., Mitchell, T.R., & Dossett, D.L. 1978. Importance of participative goal setting and anticipated rewards on goal difficulty and job performance. *Journal of Applied Psychology*, 63: 163-171.

⁷ Bandura, A., & Simon, K.M. 1977. The role of proximal intentions in self-regulation of refractory behavior. *Cognitive Therapy and Research*, 1: 177-193; Strecher, V.J., Seijts, G.H., Kok, G., Latham, G.P., Glasgow, R., DeVellis, B., Meertens, R.M., & Bulger, D.W. 1995. Goal setting as a strategy for health behavior change. *Health Education Quarterly*, 22: 190-200.

⁸ Locke & Latham, 1990, op. cit.

⁹ Latham, G.P., & Saari, L. 1982. The importance of union acceptance for productivity improvement through goal setting. *Personnel Psychology*, 35: 781-787.

¹⁰ Useem, M. 1998. *The leadership moment. Nine true stories of triumph and disaster and their lessons for us all*. New York, NY: Three Rivers Press. Also consult the following sources: Weick, K. 1996. Prepare your organization to fight fires. *Harvard Business Review*, 74(3): 143-148; Maclean, N. 1992. *Young men and fire*. Chicago, IL: The University of Chicago Press.

¹¹ Dell, M., & Fredman, K. 1999. *Direct from Dell. Strategies that revolutionized an industry*. New York, NY: Harper Business.

¹² Kanfer, R., & Ackerman, P.L. 1989. Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition. *Journal of Applied Psychology*, 74: 657-690. Kanfer and Ackerman examined the performance of US Air Force enlisted personnel who were undergoing basic training on an Air Traffic Control (ATC) task. The ATC task is a rule-based, real-time, computer-driven task that simulates activities performed by air traffic controllers. Trainees have to attend to numerous information cues (e.g., airport weather conditions; and hold pattern from the cue), and learn various rules (e.g., planes with less than three minutes fuel left must be landed immediately; and ground conditions and wind speed determine the runway length required by different plane types) to land planes in a safe and efficient manner. Giving the Air Force enlisted personnel a specific challenging performance goal with regard to the number of planes to be landed decreased rather than increased their effectiveness.

¹³ Kanfer & Ackerman, op. cit.

¹⁴ Locke & Latham, 1990, op. cit.

¹⁵ Locke & Latham, 2002, op. cit.

¹⁶ The task was developed by Pino Audia. See, for example, Audia, P.G., Locke, E.A., & Smith, K.G. 2000. The paradox of

success: An archival and a laboratory study of strategic persistence following radical environmental change. *Academy of Management Journal*, 43: 837–853. This simulation was chosen as a result of Lucent's failed attempt, described earlier, to increase market share, as well as comments by Michael Eisner, CEO of the Walt Disney Company, who once observed that, "Today's hottest company is tomorrow's struggling, helpless giant." Likewise, Howard Schultz, the man who built Starbucks, and now the chair and chief strategist, argued that, "We are in the second inning of a nine inning game . . . We are just beginning to tap into all sorts of new markets, new customers, and new products." Similar to Martinez's comments cited earlier, he argued further that there is a strong likelihood that strategies that have worked in the past may not work in the future as a result of on-going changes in the market-place. The CIBG provides an ideal way to test the validity of these assertions.

¹⁷ After each round of decision making, participants obtained feedback regarding market share, number of cell phone subscribers, and operating profit. An optional screen provided longitudinal results on 12 other business-related indicators (e.g., advertising expenses and total debt). Performance was the direct result of the strategic decisions that each individual made. Participants were given extensive feedback because feedback is often present in the business environment; individuals either search for information on the outcomes of their decisions or feedback is provided in real-time (e.g., units sold, the stock price, or dollar amount of tips received). The set-up of the simulation allowed the participants to request industry-specific information (e.g., new technologies developed) as well as information on customers (e.g., hours spent on using particular services) to help them make informed decisions. Each of these information sources could be obtained at a cost of \$25,000 per decision period. The information available in the simulation was the same for each participant and, over time, reflected the different stages of the telecommunications industry. Seeking task-specific information helped participants to make strategic decisions that would enable them to improve their performance. In business settings, too, those executives with an active mind ask questions and question assumptions in order to achieve high levels of performance. In contrast, those that are reluctant to dig beneath appearances and uncover the true state of their business often fail to run a successful business.

¹⁸ Seijts, G.H., Latham, G.P., Tasa, K., & Latham, B.W. 2004. Goal setting and goal orientation: An integration of two different yet related literatures. *Academy of Management Journal*, 47: 227–239.

¹⁹ See also, Seijts, G.H., & Latham, G.P. 2001. The effect of distal learning, outcome, and proximal goals on a moderately complex task. *Journal of Organizational Behavior*, 22: 291–302.

²⁰ Brown, T.C., & Latham, G.P. 2002. The effects of behavioral outcome goals, learning goals, and urging people to do their

best on an individual's teamwork behavior in a group problem-solving task. *Canadian Journal of Behavioral Science*, 34: 276–285; Winters, D., & Latham, G.P. 1996. The effect of learning versus outcome goals on a simple versus a complex task. *Group and Organization Management*, 21: 235–250.

²¹ Tichy, N., & Sherman, S. 1993. *Control your own destiny or someone else will. Lessons in mastering change—from the principles Jack Welch is using to revolutionize GE*. New York, NY: HarperCollins Publishers.

²² Krames, J.A. 2003. *What the best CEOs know. Seven exceptional leaders and their lessons for transforming any business*. New York, NY: McGraw-Hill.

²³ Walton, S., & Huey, J. 1992. *Made in America*. New York, NY: Doubleday.

²⁴ Kerr & Landauer, op. cit. Kerr referred to learning goals as horizontal stretch goals. Challenging performance outcome goals he referred to as vertical stretch goals.

²⁵ Latham, G.P., & McCauley, C.D. forthcoming. Leadership in the private sector: Yesterday versus tomorrow. In C. Cooper (Ed.), *The twenty-first century manager*. Oxford, England: Oxford University Press.

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