

Internal Control: **The Lottery's Ticket** **to** **Success**

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Thoughts about the lottery typically bring three images to mind: brightly decorated scratch-off tickets with fun games, paper tickets with a series of numbers, and money—lots and lots of money.

According to Paul Newman as Fast Eddie Felson in *The Color of Money*, “Money won is twice as sweet as money earned,” so it should come as no surprise that the multi-million-dollar prizes available in state-run lotteries attract many people who try to win through fraudulent means. Unfortunately, the enormous amount of money changing hands in modern government-run lotteries attracts an equally impressive number of fraud and theft opportunities. In the United States, state and multistate lottery operations must apply fundamental internal control principles to protect the sponsoring governmental entity, citizens, and players from scandal being associated with

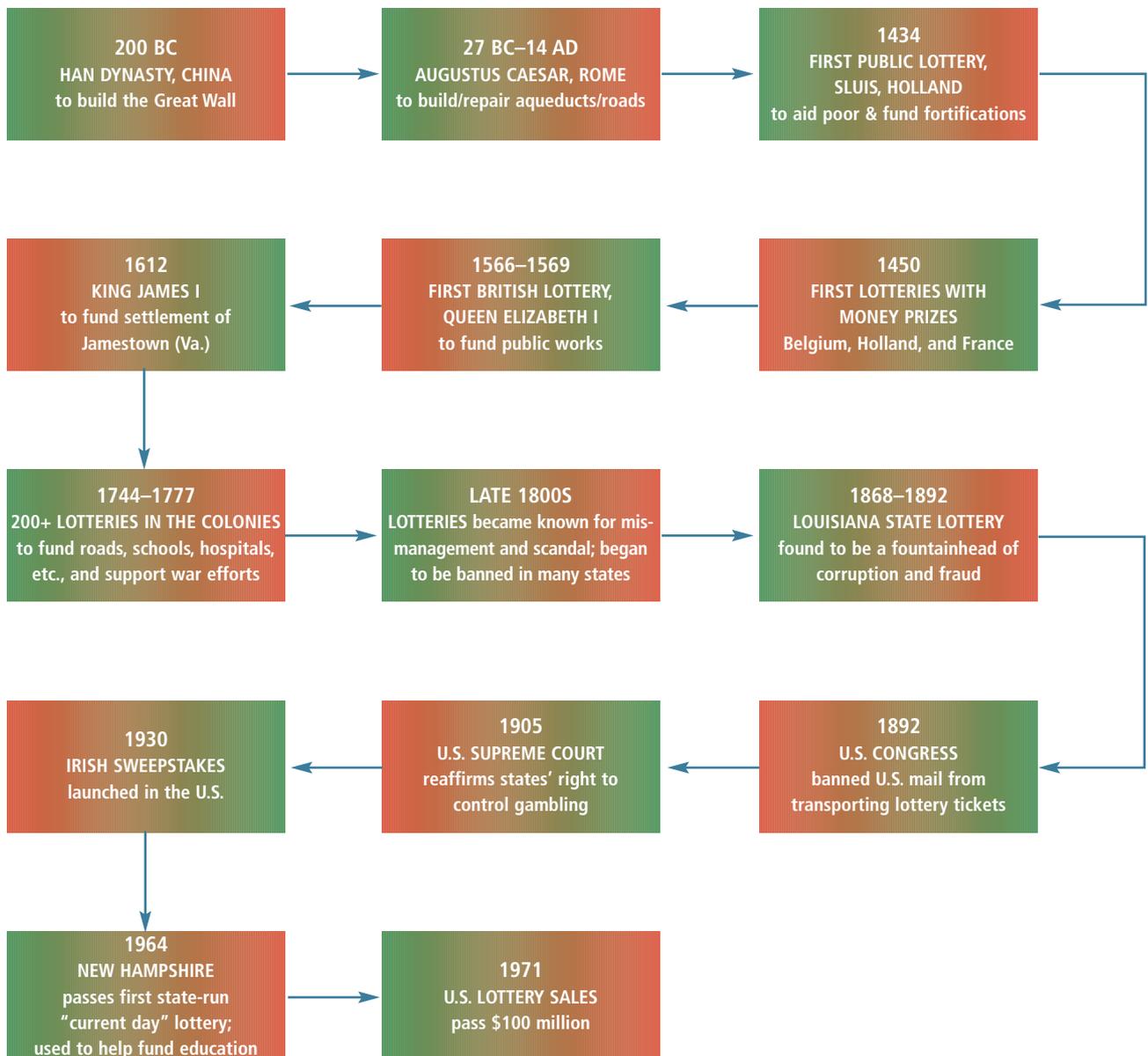
sweepstakes games.

Here we describe some of the internal controls the Texas Lottery Commission uses to maintain the security and integrity of its lottery system. Though these controls are specifically for lottery operations, the underlying tenets on which the controls have been built are useful in any organization as is the importance of considering external relationships in the process of designing a control system.

The Texas Lottery

Lotteries are thought to have started around 200 BC and

Figure 1: Some Historical Lottery Events



throughout history have been used by Eastern and Western cultures as a supplement to taxes when raising funds for a variety of governmental projects or special interests (see the timeline in Figure 1). Augustus Caesar used lottery proceeds to help repair roads in Rome; Britain used its first lottery in 1566 as a form of government debt financing, and a British lottery financed the settlement of Jamestown; and the Continental Congress used lotteries to help finance the Revolutionary War effort. Unfortunately, fraud and mismanagement accompanied the vast sums of money associated with lotteries. Thus, by the late 1800s, many states had banned lotteries because of the scandals associated with state-run lotteries. When New Hampshire sold its first lottery ticket in 1964, the U.S. saw the resurgence of the lottery, and, as of mid-2010, 43 states and the District of Columbia have lotteries.

Texas voters approved a lottery in 1996. The lottery's goal is to generate revenue through enjoyable games, innovative technology, and preminent standards of security and integrity. Under this umbrella mission, the Lottery Commission incorporates numerous internal controls into its products, operations, and supply chain management. According to the North American Association of State and Provincial Lotteries (NASPL), as of 2008, Texas was the third-largest state lottery, with

approximately \$3.7 billion in annual lottery sales. As Figure 2 indicates, Texas primarily uses lottery revenues to pay prizes and fund state education.

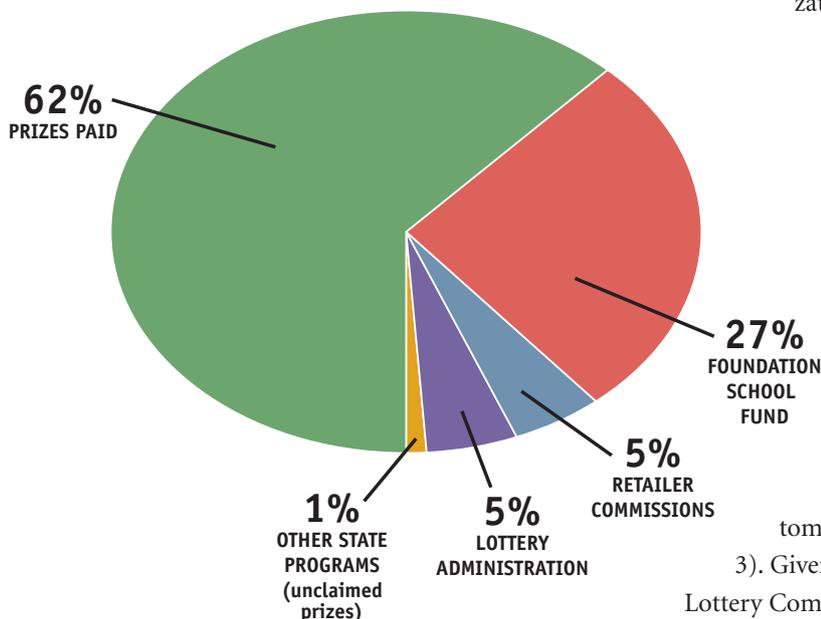
The State of Texas operates online and instant (scratch-off) games. The online games allow a customer to play a series of chosen or randomly selected numbers that are printed through a terminal at a retailer location. The Texas Lottery Commission conducts game drawings to determine the winning numbers for online games. Instant ticket games are preprinted cards with various symbols hidden under a latex-type covering that is scratched off so players find out immediately whether they've won.

Internal Controls at the Texas Lottery Commission

An internal control is any organizational process that safeguards assets and/or provides reasonable assurance about compliance with laws or regulations and about financial reporting reliability. Controls include independent checks on activities, authorizations, physical asset safeguards, and reconciliations. Controls should deter fraud and abuse but still allow the organization to function efficiently and effectively. A company should establish controls as a three-prong system of defense to prevent problems, detect problems that occur, and correct problems and eliminate recurrence. Cost-benefit analysis determines the level to which the company institutes controls, and, thus, an analysis of organizational risks is imperative before implementing any controls.

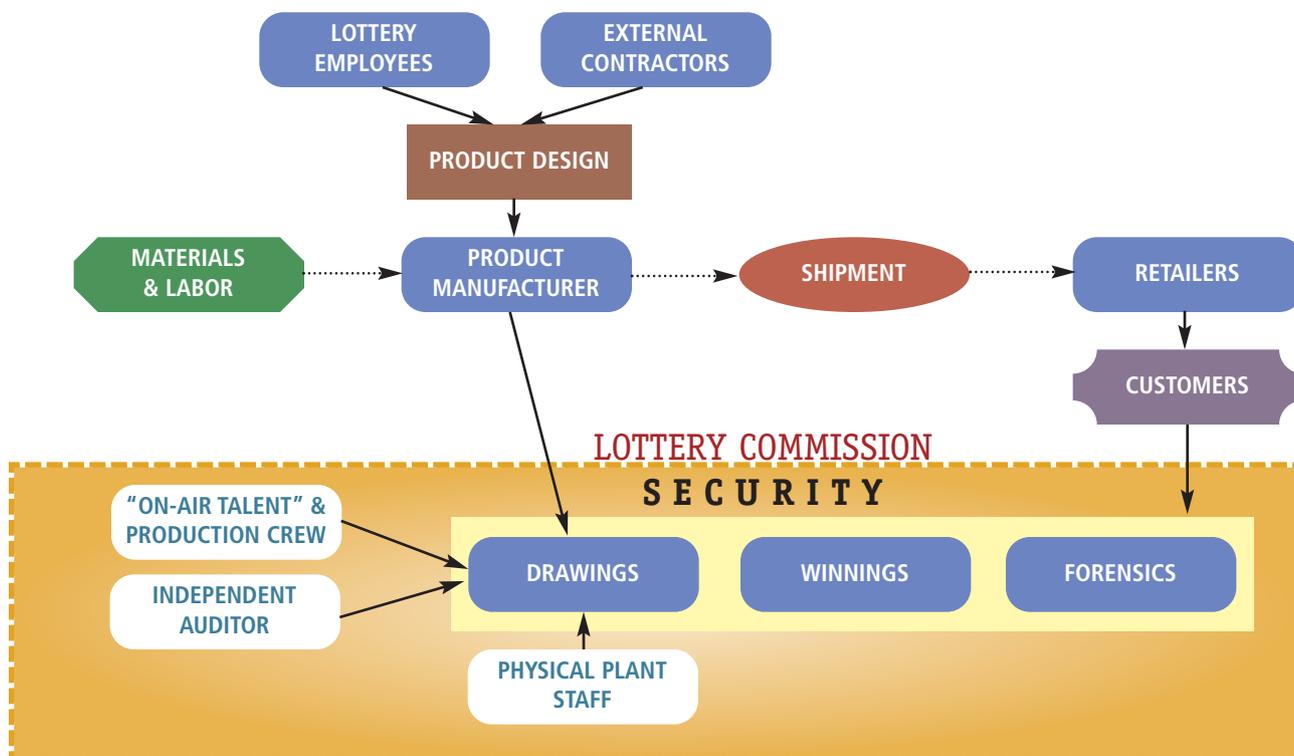
In many organizations, fraud risk assessment is focused internally, addressing issues of employee abuse, corruption, or theft. For other organizations (including lotteries), the potential for fraud and the need for internal controls run throughout the supply chain. In the case of a lottery, potential for a threat to the game's integrity can exist at the design point, in the outsourced manufacturing process, in distribution, at the retailer, with the customer, and within the lottery offices (see Figure 3). Given so many possible compromise points, the Lottery Commission must consider the following questions: Who might compromise the process? Where might those people be at the time of compromise? What evidence would exist of the compromise?

Figure 2: Use of Texas Lottery Funds



Source: Texas Lottery Commission, "12 Years = \$12 Billion for Texas Education," 2009; www.txlottery.org/export/sites/default/Supporting_Education/ (accessed 8/16/10).

Figure 3: The Lottery Fraud Risk Environment



The Texas Lottery Commission instituted policies that clearly reflect the change in today's organizational reality.

Internal control has, in fact, been stretched to include external relationship controls as Figure 4 shows. Gone are the days when an organization could be concerned only with the effectiveness of controls that protected assets and emphasized adherence to policies and procedures. In today's complex and litigious operating environment, an entity may need to extend its control focus to the upstream and/or downstream functions within its value chain.

Prevention Controls: The First Line of Defense

Prevention controls are the first line of organizational defense against problems. These controls seek to deter problems before they arise and, as such, focus on both operational inputs and the operations themselves. If the risk to asset loss is eliminated, there's no need for detection.

In the quality arena, spending money to prevent defects is less expensive than spending money for appraisal and internal or external failure. A comparable tenet is true for internal controls. Although no set of internal controls can drive the fraud risk to zero probability, the higher the level of first-stage defense, the lower

the need for second-stage reactions. The Lottery Commission's approach to internal controls reflects this attitude by employing a series of front-end controls intended to prevent problems from occurring in either its scratch-off or online games. Preventive controls begin at the design and manufacture phase and are found throughout the ticket handling, games operations, and winning payouts processes.

Product Design and Manufacture

On the upstream side, the Commission must be assured that its material suppliers, design contractors, and equipment producers have employed adequate internal controls because a high potential for fraud exists before lottery materials ever reach the downstream retailers and customers. Although the largest dollar prizes can be found in the online games, scratch-off tickets represent a bigger design and manufacturing challenge because of the tickets' design complexity and the number of games offered. During any 12-month period, the Texas Lottery operates more than 100 different scratch-off games.

When a new scratch-off game is being designed, every ticket design alternative goes through an extensive evaluation to ensure the design supports game integrity. There-

fore, mockups of tickets in working papers show actual ticket design and details. The working papers then go through multiple Commission departments where the design is checked for potential security and other game-related issues. An independent external agency tests a sample of actual run tickets for durability and effectiveness of internal control features embedded in the tickets.

Numerous control features are designed into each scratch-off ticket. As is often the case for companies implementing internal controls, the controls at times conflict with profit or efficiency objectives. For example, a simple scratch-off ticket design with few colors and minimal complexity is less expensive to design and manufacture and is more efficient in highlighting ticket alterations made by unscrupulous game players. But extremely simplistic designs don't catch consumers' eyes so thus lower ticket sales and dampen game revenues. Moreover, the latex coating must be strong enough to protect the ticket from unintentional damage or intentional tampering but soft enough so that players can easily scratch off the covering without damaging the underlying symbols. Proprietary inks, card stock, and ticket paper make attempts at ticket alterations more challenging and are useful in detecting alterations after tickets are sold. Scratch-off tickets also contain unique 14-digit security codes to validate winning tickets.

Outsourced operations are also subject to controls. The Texas Lottery Commission annually inspects companies that manufacture their tickets; additionally, all manufacturer employees involved with Texas Lottery products undergo criminal background investigations. Although a scratch-off ticket manufacturer could, in theory, compro-

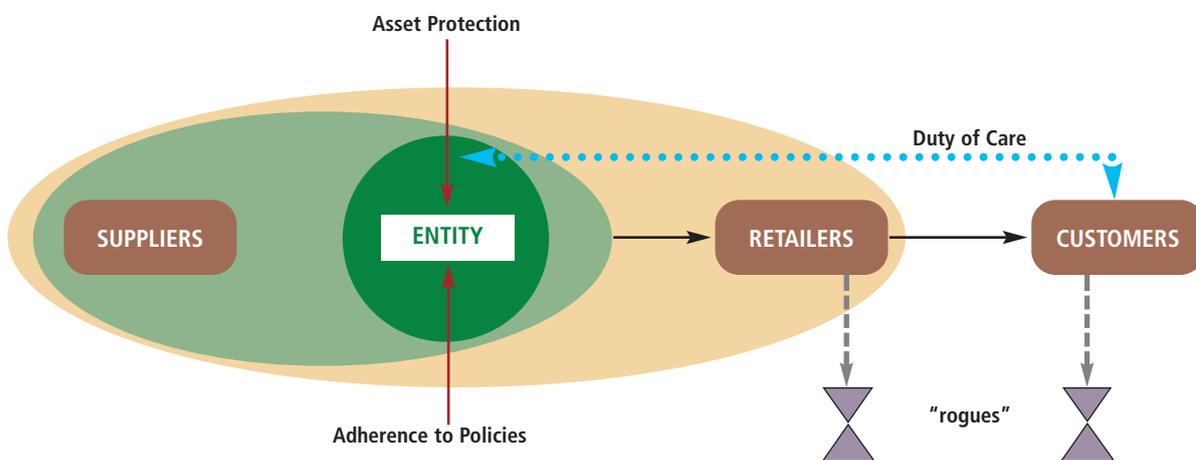
mise the instant games by producing and obtaining "known" winning tickets, the reality of such a threat is almost zero because tickets are printed automatically in long, fully encrypted rolls. Scientific Games Corp., Texas's primary ticket manufacturer, hides winning ticket data from graphic designers by using three computer firewalls.

Product Handling

On the downstream side, the Commission must institute sufficient controls so that ticket distributors and retailers can't circumvent lottery product authenticity. Packs containing 20 to 150 tickets are sealed before leaving the manufacturer, and lottery staff examine random packs for quality control and tampering after the packs are unloaded from the truck. Each batch of scratch-off tickets is imprinted with unique identifying information, and the Commission tracks the location of all unsold game tickets from production to retail outlet to the destruction process at the end of a game.

Select outsourced vendors deliver scratch-off tickets and paper for online games to retailers. These vendors could possibly find an opportunity to steal or modify the tickets or steal the online game paper. But access to the Lottery Commission terminal at retail locations or at the claims centers is essential to being able to win with either a scratch-off or online ticket. Until they are activated at the terminal using unique identification information, scratch-off tickets have no value. For online games, retailers must print tickets on the special paper and by the terminal that connects to a central database to record wager details, internal and external transaction serial numbers, purchase time and date, and retail location. These con-

Figure 4: Extension of Internal Controls



trols combine to almost certainly preclude logistics employees from engaging in fraud, especially since, without the winning numbers, the paper—even when printed—is simply paper.

Game Operation

While design and manufacturing controls present the biggest challenge for scratch-off games, controls for game operation take center stage for online games. These games use televised drawings of three or more numbered balls pulled from air- or gravity-driven machines. With prizes for some online games in the hundreds of millions of dollars, the incentive for fraud is high.

Ensuring random selection of numbers is critical to having a fair lottery, and security surrounding drawings is tight. Security procedures for Texas Lottery drawings take about two hours for a 30-second drawing and four hours for a 90-second drawing. Ball sets used in drawings are housed in sealed plastic cases that are locked in a safe between drawings. Periodic maintenance checks of the balls verify ball weights. To ensure the balls can't be contaminated by skin oils or other substances, ball handlers must wear gloves at all times except during rehearsals and the televised drawing.

Using the primary internal control principle of separation of duties, key tasks performed at each drawing involve more than one person and are alternated. Repetitive steps are also alternated among staff. An independent auditor from the Commission's external audit firm and two Commission employees verify ball set numbers as well as work together at the machines to load and unload balls. At a minimum, one Lottery Commission security staff member and the independent auditor observe the actual drawings. Drawing results aren't official until the independent auditor confirms the numbers drawn. For even greater transparency, all drawings are open to the public, and, on a 24/7 basis and from many angles, security cameras monitor the studio and secured room holding the ball safe and lottery machines.

Job rotation is another important internal control, and the Commission uses this technique for both people and equipment. The individuals who load and unload lottery balls change routinely and generally work only two consecutive days on drawings; observing auditors alternate every three days. The Lottery Commission selects drawing equipment and ball sets randomly and uses lottery machines for only one month before they receive periodic maintenance.

The primary control goal of scratch-off game opera-

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tions is to be certain that winning tickets receive the appropriate prizes. Scratch-off tickets are validated as "winning" by comparing the ticket's unique security code with the database of winning ticket numbers using any dedicated Lottery terminal. If the terminal can't validate the tickets through this comparison process, the tickets are sent to the Austin Claim Center for further investigation.

Paying Winning Tickets

The Commission can't extend its internal control focus to customers, but it can be seen as owing some level of "duty of care" to its customers. For instance, customers rely on the Commission's internal controls to ensure games are honest and to validate lottery tickets. Similarly, other organizations (especially in a litigious society) may need to be assured that their internal controls have the most cost-beneficial level of process efficacy to protect customer interests.

Ticket holders can cash winning scratch-off or online game tickets valued at less than \$600 at Lottery retailers. Although most licensed retailers are honest, the Commission recognizes the opportunities available to dishonest employees who circumvent controls, so every effort is made to stay ahead of would-be fraudsters. In past years, a visual display on the dedicated terminal confirmed the winning ticket at retail locations. But the Commission changed this method when some retailer employees were found to have lied to ticket holders about a ticket's win status or win amount. After being told their tickets weren't winners, ticket holders often simply discarded the "worthless" ticket. The retailer employee then took the discarded ticket, presented it for payment, and collected the winnings. Employees might have also told ticket holders an inaccurate win amount, paid the lower sum, and then pocketed the difference. Terminals now emit unique audio tones identifying win status, whether the prize can be claimed at the retail location or at the claim center, or whether a ticket failed to properly validate.

Any of the 16 Lottery claim centers can pay winnings up to \$1 million, and the Austin Claim Center pays winnings of more than \$1 million. Winners can also claim prizes by mail. Mailroom control procedures include adequate separation of duties in handling the incoming claims, job rotation, and continuous security camera observation. The latter is especially important because winning tickets are bearer documents, so the person in possession is typically entitled to the payments. The claims centers pay prizes only by check, and check paper is embedded with nine security features to prevent tampering. Also, the Lottery Commission office contains no cash (to deter the possibility of robbery).

Detection Controls: Uncovering Fraud

Detection controls find fraud when prevention controls have failed or when unforeseen risks have occurred; such controls are most effective when control problems are identified quickly after they arise. Awareness of the existence of detection controls is “one of the strongest fraud deterrents,” according to the Institute of Internal Auditors (IIA). Detection controls can also be used as “monitors” that help an organization assess the effectiveness of prevention and correction controls.

The Texas Lottery Commission uses lottery detection controls to ensure that the drawings for online games haven’t been compromised. Lottery staff and the independent auditor inspect ball sets before loading the drawing machine. Also, at least four simulation drawings take place before each official drawing so they can assess the randomness of the number selection process. An external independent statistician routinely scrutinizes the results to determine whether the selected balls reflect a random drawing. Should a ball fail the “randomness test,” Lottery personnel replace the entire ball set for the official drawing. Then the staff removes that ball set from regular rotation and sends it to the external independent statistician for additional testing.

Two categories of detection controls are also in place to assure that payments are made only to players who submit valid tickets: establishing ticket ownership and detecting altered tickets. Although winning tickets are bearer documents, someone who steals a winning ticket isn’t eligible to receive payment. To the extent possible, the Lottery Commission tries to verify ownership when disputes arise. Each ticket back has a space for the winner’s name and address. Any alterations to this portion of the ticket raise red flags, and an investigation ensues. Although claim disputes typically are handled in the judi-

cial system, the Lottery’s Security Department and Enforcement Division provide evidential matter in support or in contention of a claimant. For example, a woman stole a winning \$1,000 scratch-off ticket after the rightful owner signed the back. The thief used correction fluid to obscure the proper owner’s information and substituted her own name and address. Even though the ticket validated properly, it didn’t pass the claim-inspection process. Commission personnel used equipment to read the original name through the correction fluid and provided evidence that allowed the true winner to be paid.

Players sometimes alter nonwinning tickets to make them appear to be winners. Common approaches to ticket alteration include cutting and pasting (or taping) numbers from a nonwinning ticket into another to form a winning combination, making changes that alter one number into another (for example, adding a loop to the top of a 1 to form a 9), and splicing two tickets together. Regardless of how sophisticated the alteration may be, all of these methods are useless because the ticket won’t properly validate. No validation, no winning ticket.

Yet despite the depth and breadth of the internal control function, there’s always the potential for a “rogue” individual retailer or customer who sidesteps the control procedures that are in place. Because of this, improving detection controls is an ongoing process at the Commission. Previously, a validation at the Lottery terminal generated a single documentation receipt. The Commission improved the process and now generates two receipts: one for the player and one for the retailer. Finally, the Commission has a robust investigation process to resolve complaints from players, retailers, and the general public. Substantiated complaints against licensed lottery retailers can result in warning letters, license suspension, or license revocation.

Correction Controls

Correction controls include methods and procedures to prevent recurrence of a detected problem. Planning for problems and preparing to respond to issues as they arise are important in developing effective correction controls. Because of the diverse nature of problems that can arise, human judgment is key to developing controls that prevent a problem from recurring.

Judgment is found at a number of points in the Lottery Commission. The Security Department not only helps detect problems such as altered tickets, but it also develops policies and procedures that keep problems from recurring.

Figure 5: Internal Controls Checklist

Perform risk assessment of business environment and cost/benefit analyses
to establish level and depth of controls

PREVENTION

- ◆ Develop product design that minimizes potential for product tampering or counterfeiting but maximizes consumer preferences and product integrity.
- ◆ If outsourcing, establish confidence in manufacturing partner, and use independent parties to test product designs and product prototypes.
- ◆ Hire responsibly, which includes doing employee background checks.
- ◆ Perform quality-control checks during production activities to reduce possibilities of product failure.
- ◆ Use well-designed documents to prevent falsification or tampering.
- ◆ Establish checks and balances that rely on separation of duties (whether through people or machines) or verification processes.
- ◆ Install and use security devices to restrict access and monitor activities.
- ◆ Rotate jobs among qualified employees to reduce risk of complacency or collusion.
- ◆ Fix problems in the internal control system as soon as they are found.

DETECTION

- ◆ Install documentation, validation, or verification processes that will raise red flags under atypical or altered conditions.
- ◆ Employ cost-effective technology to detect problems as they occur.
- ◆ Use management reports to monitor performance.
- ◆ Identify critical-success factors, and establish goals for these factors. Compare actual performance results to goals to identify problems.
- ◆ Periodically challenge existing security procedures and processes to test for vulnerabilities.

CORRECTION

- ◆ Establish a team to respond to control violations and incidents. Team should be in charge of recognizing a problem exists, limiting the effects of the problem, and determining ways to prevent the problem from happening again.
- ◆ Appoint a senior-level employee to be responsible for security issues. This staff member should be independent of operations.
- ◆ Plan for problems, and develop responses before the problems are realized.

To plan for problems and develop responses before problems can arise, Lottery staff members rely not only on their own experiences, but they also solicit ideas from retailers, players, and concerned citizens about potential weak spots in the gaming process. The forensics staff even tries to manipulate tickets to try and find new ways that fraudsters can compromise them and develops reconstruction skills for damaged tickets.

Critical Importance of Internal Controls

With prizes reaching hundreds of millions of dollars, lottery players dream of living in mansions, driving fancy cars, or lying in the sun on white sandy beaches. The desire to achieve those dreams provides incentive for someone to consider how to “beat the system.” What most dreamers don’t realize, though, is that lotteries are currently viable because their organizers also dreamed, but their dreams were about how people might try to outsmart the system. Armed with those dreams, the Commission designed and implemented internal controls that promote organizational success and governmental revenue enhancement.

Although they don’t face the same challenges as a lottery organization, most businesses can learn from the internal control systems installed at lottery operations (see the checklist in Figure 5). In any business, it’s essential to understand the inherent organizational or supply chain weaknesses that could lead to fraud and preclude those weaknesses from becoming crises. Careful development of prevention controls can reduce the number and cost of detection controls as well as diminish the need for corrective actions. Operational transparency encourages problem identification and whistleblowing about improper behavior. Establishing internal controls that subvert the opportunity for fraudulent activity and prevent recurrence helps protect brand value and organizational reputation.

Equally important to organizations should be the concept of extending the internal control environment beyond organizational boundaries. Implementation of upstream external relationship controls is critical when an entity relies on a sole-source supplier or outsources any critical product manufacturing or sensitive support service activity. Organizations (especially those with substantial possible liability for product quality failure) need to address the integrity of raw material inputs or the legal ramifications of leaked proprietary information. Downstream external relationship controls are essential when

customers view retailers as a part of the organization or when organizations are concerned about limiting the number of retail channels so must ascertain the appropriateness of the distribution processes.

All companies owe a degree of care to customers, but some types of organizations owe more than others. For example, customers typically contact insurance companies in situations of distress. While most claims are legitimate, “rogue” customers can make fictitious or overstated claims—underscoring the substantive need for the same types of external relationship controls the Lottery Commission uses to help ascertain claim legitimacy.

Risk is a part of all businesses, and internal controls help minimize that risk. No longer can organizations take a simplistic and introspective view of identifying and implementing controls that focus only on lessening internal risks. As the controls at the Texas Lottery Commission show, a company must consider and develop controls that address external relationship risks. Without such consideration, all bets for long-term profitability could be lost. **SF**

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