**5 steps to prevent complex inventory frauds**

Fraudsters are becoming increasingly creative. Here's how SMEs in the manufacturing sector can guard against losses.

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When we think about inventory theft, we often think of a sales assistant stealing a product from a shop stockroom or an employee carrying away items from a warehouse. Although these are common forms of theft, more complex cases of inventory fraud affect manufacturers, too.

Noncash fraud schemes, a category that includes inventory theft, are among the most common types of frauds, accounting for 19% of all asset misappropriation schemes, according to the 2016 *Report to the Nations on Occupational Fraud and Abuse* by the Association of Certified Fraud Examiners (ACFE). They are second only to billing schemes, which account for 22% of all asset misappropriations.

The following real-life case study shows how creative fraudsters can be when it comes to inventory theft. The names of the company and individuals have been changed.

**INVENTORY THEFT AT CHOCOLATECO**

ChocolateCo is a family- owned manufacturer of luxury handmade chocolate bars. The business was founded at the end of the 19th century and is still owned by direct descendants of the founding family. At the time of the fraud, the company was owned and managed by Luke. As general manager, Luke spent the majority of his time looking after the finance, marketing, and sales figures; purchasing and production activities were managed by Adam. After 30 years on the job, Adam was appointed production and purchasing manager after Luke's father retired. Adam was highly regarded and trusted by Luke, given his long service.

The accounting and finance tasks were handled by a small finance team that was mainly focused on accounting, taxes, and preparation of statutory accounts. Every quarter Luke and Adam would meet briefly to discuss the performance of the past quarter. The discussion was based on a report prepared by the finance team that included a few key figures (sales, margins, cash, and inventory balances), comparative figures from the previous quarter, and a brief explanation of the most significant variance between the figures.

The organization of the warehouse was quite straightforward: A purchasing assistant oversaw the buying of the raw materials to make the chocolate bars, the warehouse team was in charge of receiving goods and performing quality controls on the materials received, and the production team managed the machinery to produce the final product. In addition, Adam also managed a small team of drivers who were in charge of dispatch and delivering the goods to ChocolateCo's clients.

At the end of every afternoon, Adam would record in the system how much raw material was used and how many bars were produced that day. He would then print out the delivery notes for that evening and hand them over to the delivery team. Once drivers received their papers, they would load their trucks and deliver their products to the customers.

Adam was the only member of the production team with access to the company system, thus he was the only one with insight into the exact input and output figures. After some time, the accounting manager began to suspect that these numbers did not add up.

This came to light when a production team member remarked on the number of bars produced that day to her friend, the accounting manager, over dinner. The number simply did not resonate with the accounting manager; she had checked the stock level and the daily production before leaving the office that evening to prepare the quarterly report.

The following day, when she confirmed that the production yield recorded the previous day did not match the number mentioned by her friend, she suspected a larger problem. She tracked these numbers over the next few days, and once she was sure there were inconsistencies, she went to speak to Adam about the problem. Adam stated that the numbers in the system were correct as he counted the bars personally; however, the accounting manager still thought there was a problem and went to speak directly with Luke about the discrepancies.

The accounting manager explained the situation to Luke and told him that she suspected that a production operator was stealing the missing bars before Adam could account for them in the system. Based on these suspicions, Luke hired a fraud investigator. He did not mention it to Adam in an attempt to prevent any change in his behavior that might alert those members of his team who were involved. The investigator advised Luke to perform a surprise inventory count before the delivery trucks left the plant at the end of the day.

This surprise count revealed that several boxes of bars that had been loaded onto one of the trucks were not accounted for at all in the warehouse system. The driver of this truck quickly confessed that he had been defrauding ChocolateCo with Adam's help.

He went on to explain that each day, Adam recorded 10 kilogrammes of chocolate less than the actual weight of production for the day (eg, if 1,000 kilogrammes were produced, he inputted 990 kilogrammes). The driver would then load his truck with the number of bars indicated in the delivery notes, which were handed out by Adam, plus an additional 10 kilogrammes. These additional bars, which had never been recorded in the warehouse system, were then delivered and sold to a third party by the driver, and the proceeds were split between the driver and Adam. Based on the figures provided by the driver and later confirmed by Adam, the pair were able to steal goods with an estimated total value of £150,000 (about $197,000) over three years.

How did fraud on this scale happen? It turns out that concealing it was, in fact, quite easy. Nobody in the warehouse other than Adam had access to the company IT system. Adam was the only one who recorded inbound and outbound production volumes for the day, and he was also the one who checked that the outbound deliveries were accurately prepared by the drivers. The quarterly reports discussed with Luke included just two figures related to inventory: the total value of the raw materials and the amount of finished goods stock at quarter end. As Luke's only concern was having enough stock to fulfil orders, he found this information to be adequate and didn't ask any further questions. Furthermore, Adam decided when to do the periodic stock count, so he made sure that no extra bars were left in the warehouse beforehand.

The two fraudsters were immediately fired. They agreed to repay the amount; however, neither party did so in the end. The driver was already in debt in an attempt to finance his lavish lifestyle, and very little was recovered from Adam, leaving ChocolateCo to take the financial hit.

## HOW CAN MANUFACTURING COMPANIES PROTECT THEMSELVES?

Manufacturing companies should focus on the following key areas to prevent inventory fraud.

**Segregation of duties.** The lack of segregation of duties played a key role in the ChocolateCo case, as Adam performed a number of conflicting tasks.

To prevent fraud, employees involved with the production process should not be involved with the shipment process.

After the fraud case, ChocolateCo reorganized its warehouse team, creating separate supervisor roles for the production and shipping processes.

The production supervisor was responsible for entering production input and output figures in the system. The plant manager who replaced Adam did not have writing access to the system; he checked and validated the data inputted and edited by the production supervisor after having verified their accuracy.

In the delivery team, the shipping supervisor checked the accuracy of every shipment prepared by the delivery team, and, in addition, the plant manager performed random checks on a sample of shipments.

**Production yield analysis.** Production yield, the difference between actual output and standard output based on standard inputs of materials and labor, would have been a useful indicator of the efficiency of the production process. If ChocolateCo had used this metric regularly, it would have been clear that based on the raw materials used, the annual output should have been approximately 2,600 kilogrammes higher, and the fraud could have been detected much sooner.

**Management reporting process.** The lack of a structured management reporting process allowed fraud to take place within ChocolateCo. Luke and Adam's quarterly meetings were informal, brief, and not detailed enough for proper fraud prevention. If the operational and financial performance variances had been properly monitored, the fraud would have come to light much sooner.

After this incident, a detailed management reporting package including specific KPIs for each department was implemented, and the quarterly review meetings were extended to include the heads of relevant departments including sales, marketing, and finance. The meetings follow a structured agenda, and all the KPIs are reviewed in detail and crosschecked by the heads of each department. In addition, the actual performance is compared with a newly created budget.

**Surprise stock counts.** The first piece of advice from the fraud investigator in this case study was to perform a surprise stock count that immediately led to the discovery that bars were missing. The element of surprise is an excellent deterrent, and surprise inventory counts can be used as an effective procedure to prevent and detect fraud. Predictable controls can be easily eluded; the knowledge that the likelihood of getting caught is higher would make fraudsters think twice.

According to the 2016 ACFE report, surprise audits can reduce the average loss due to fraud from $195,000 (£144,000) to $100,000 (£74,000), a reduction of 49%. Furthermore, surprise audits can halve the average duration of the fraud from 24 months to 12 months.

**Automated production process.** The machinery used by ChocolateCo had no interface with the enterprise resource planning (ERP) system, ie, the equipment did not record the amount of raw materials used during the production process or the number of bars produced. These two numbers were accounted for manually by Adam, allowing room for fraud to occur.

Manual processes are more prone to errors and fraud. The use of production machinery that is seamlessly integrated with the company's ERP helps to prevent this type of fraud. Nowadays the most advanced production machines are able to measure input and output and automatically update the company's system.

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