Chapter 14
Marketing, Competitive Strategy, and Competitive Intelligence

Summary

This chapter presents an overview of the marketing, competitive strategy, and competitive intelligence concepts that apply to food fraud prevention. The fraudster should be considered a competitor alongside the traditional marketplace adversaries. The fraudster is a business which makes business decisions, so they can be influenced or "dissuaded" from attacking a company, brand, or product. This chapter will provide a review of marketing and corporate strategy concepts before laying the foundation for selecting food fraud prevention countermeasures and control systems.

The Key Learning Objectives of the chapter are

- (1) **Competitor Analysis Overview:** This is an introduction to the basics, terminology, and the key theories. This is primarily based on Michael Porter's work on corporate strategy.
- (2) **The Basic Factors in the Marketplace:** To begin to analyze the market and create a method for decision-making, this considers the attributes of the marketplace, consumers, and competitors.
- (3) **Scenarios that Help Define Countermeasures:** Reviews of the marketplace and consumer behavior can be understood by developing models of specific product and supply chain characteristics.

Introduction

Marketing as a science has rapidly developed as brands become more recognized and preferred by consumers in all four corners of the world. Social media and the spread of mobile technology are accelerating the popularity of brands. The increase

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in brand awareness and brand demand has also increased the "fraud opportunity." The expanding marketing through digital media combined with e-commerce sales and distribution is rapidly evolving and morphing the "fraud opportunity."

The foundations of marketing theory are essential to cover before considering:

- (1) The fraudster as a competitor
- (2) The application to competitor analysis
- (3) Competitor intelligence gathering for targeted countermeasures.

One of the most basic and holistic concepts is Kotler's "5 Ps of Marketing" which include Product, Price, Place, and Promotion, and then he considered People to be the underlying foundation (Kotler 2012). A key to his theory is "control" which means understanding, preparing for, and responding to market conditions. The four Ps combine to consider the overall objective of product "positioning"—especially if there is an evolving fraud opportunity or awareness of counterfeits in the marketplace—then this would be a potential threat to success. CFOs, general managers, and brand managers frequently understand "counterfeiting is bad" and "we should do something," but the concern is usually not put into an immediately actionable form. In essence, the raw information ("we have a counterfeit problem") is not processed into "actionable intelligence" (e.g., implement task "a" with test sensitivity "b" at point "c" to reduce the vulnerability to within the Enterprise Risk Management risk tolerance). So then the questions are:

- (1) How to understand the dynamics or factors of the fraudsters?
- (2) How to communicate in "marketing terms"?
- (3) Then how to evaluate "how much is enough"?

Key Learning Objective 1: Competitor Analysis Overview

This section reviews an overview of *Competitor Analysis* based primarily on the books of Michael Porter including *Competitive Strategy* and *Competitive Advantage* (Porter 1980; Porter 1985). These are basic principles to understand the dynamics of how businesses compete to find ways to influence the marketplace which also applies to the "fraud opportunity."

The Key Learning Objectives of this section are:

- (1) Porter's five forces analysis
- (2) The basic factors that drive the marketplace
- (3) The "decisional scope" for countermeasures or control systems

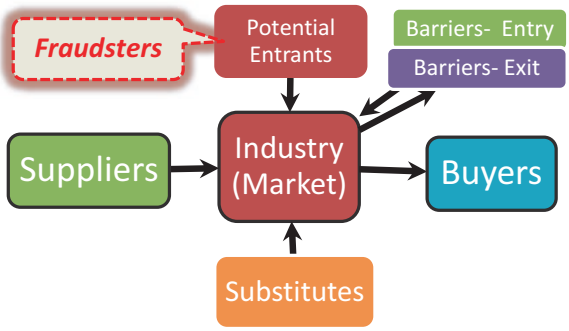

Fig. 14.1 Adaptation of Michael Porter's five forces analysis (expanded upon and adapted from Porter (1980)

Five Forces Model Applied to Food Fraud Prevention

While it may seem counterintuitive to consider fraudsters as a competitor and to assess their threat within a competitor analysis, it is logical and very efficient in strategy development.

Michael Porter is considered the godfather of corporate strategy after publishing the "five forces analysis" in his book *Competitive Strategy* (Fig. 14.1) (Porter 1980). The five forces define the rivalry or aggressive marketing within the industry. The greater the rivalry or competition in the market, the lower the profit margins. Porter states "The goal of competitive strategy for a business unit in an industry is to find a position in the industry where the company can best defend itself against these competitive forces or can influence them in its favor." So, understanding the market—including the goal and role of fraudsters—is a fundamental component of the competitive strategy.

The five forces model includes the items below. These apply to a "competitor" whether it is another brand or a counterfeiter.

1. **Industry or market** ("rivalry among existing firms"): For food fraud, this is the brand owner who is the producer, manufacturer, and retailer.
2. **Suppliers** ("the bargaining power of suppliers"): For food fraud, these are the providers of incoming goods and outgoing goods.
3. **Buyers** ("bargaining power of buyers"): For food fraud, these would be downstream manufacturers or retailers who would then sell to the end consumer.
4. **Potential entrants** ("threat of new entrants"—new competitors): For food fraud, these are not only other legitimate company who produce similar products but also the fraudsters or counterfeiters who compete with genuine product sales. (Note: the "deceptive" and "non-deceptive" counterfeits are discussed in detail elsewhere in this book.)

    (a) **Barrier to Entry**: For food fraud, these would be challenges to produce products, such as (1) procuring the funding to begin the entire operation; (2) procure the acceptable raw materials; (3) development of a recipe or formulation; (4) manufacturing and distribution; (5) insertion into the legitimate

supply chain; and (6) supporting the continuing criminal enterprise. Generally, Porter refers to major barriers including (1) economies of scale, (2) product differentiation, (3) capital requirements, (4) switching costs, (5) access to distribution channels, (6) cost disadvantages independent of scale, and (7) government policy. A counterfeiter who is already in a similar or identical industry would have fewer challenges with these barriers.

(i) ***For food fraud prevention:*** Sophisticated or unique product or process attributes may decrease the "counterfeit ability" or "counterfeit profitability." This is especially true of a product or process that is especially inexpensive for the brand owner to include. This is a key competitive intelligence insight that to add specific process steps that are easy or inexpensive for the brand owner may be a "countermeasure or control system" that decreases the business case for conducting fraud or attacking your company.

(b) **Barrier to Exit**: For food fraud, this would be the resistance to dismantle the probably capital-intensive fraudulent operation, which could include shifting to genuine products ("going legit").

(i) ***For food fraud prevention,*** this is a key competitive intelligence insight into how to "dissuade" the fraudster from producing an illegal product and "encourage" them to "go legit."

(c) **Competitors-Fraudsters**: It is efficient to expand the same competitor analysis from the legitimate competitors to the fraudsters. The basic market considerations are similar, though the countermeasures and control systems are often very different. Following another of Porter's concepts is "Signal Your Intent" which is traditionally providing advance notice of expanding operations or manufacturing capacity, so other competitors do not also decide to add more capacity. When applied to fraudsters is a warning that they may get caught (reduced sales) and that there are better controls in place (increase their cost of producing the fraudulent product).

(i) ***For food fraud prevention,*** as with legitimate competitors, fraudsters will respond to a shifting market. Specific countermeasures and control systems change the business opportunity for the fraudster. With effective communication, the fraudsters can be "dissuaded" from attacking your product.

5. **Substitutes** ("threat of substitute products or services"): For food fraud, these are not only direct competitors of similar products but also alternatives. For transportation, a trucking company competitor would be another truck company and a substitute would be rail transportation.

Sidebar: "Learning by Buyers" to Reduce the Fraud Opportunity
In *Competitive Strategy* Porter discusses "Learning by Buyers" in terms of a tendency of products to evolve from unique or differentiated to become commodities (Porter 1985). Over time, the buyers learn to adapt their specifications and purchasing goals. "A buyer's learning tends to progress at different rates for different products, depending on how important the purchase is and the buyer's technical expertise. Smart or interested buyers (because it is an important product) tend to learn faster."

Porter identifies a weakness where differentiation (with a premium price) gives way to commoditization (with a lower price). For food fraud, if the overall vulnerability is communicated so that a buyer becomes aware of the value of a reduced "fraud opportunity," then food fraud prevention may help shift a commodity to a differentiated product. In certain situations, an informed buyer may determine that a differentiated, higher-priced product is actually less costly than a commodity product when considering Enterprise Risk Management and total cost of ownership. For example, if a higher-priced flavor is more intense or stable, this could result in fewer ounces of the ingredient being required in the recipe or for use in the manufacturing (see the Wal-mart sustainability examples).

Sidebar: Fraudster Decisions—Entry into New Businesses
Continuing with concepts from *Competitive Strategy* by Michael Porter, a fraudster is a business and subject to the business decision-making process. The fact that an action may be illegal is only one of many considerations for the fraudster. It is most efficient to consider the worst case that the fraudster is a criminal not concerned with breaking the law and a sociopath not concerned about cheating or possibly endangering consumers (if they intended harm, they would be a psychopath). Also, many fraudsters rationalize their actions with ideas such as "the consumers don't notice anyway," "the brands make some much money they'll never miss this sale," "our counterfeit product is just as good as theirs," "our product has been and inspected, and "we've never been caught," "they don't look for counterfeits so they must not be concerned," or others. The fact that the fraud is illegal is often just a minor consideration for the fraudster.

For food fraud, understanding these dynamics and decisions can help "dissuade" fraudsters from attacking a product or for even trying to attack an industry. "Some crucial economic principles identify businesses that are attractive targets for entry and help determine what company assets and skills will make an entry profitable" (note: this is an interesting opposite perspective but complementary prevention strategy to the criminology theories on hot products and hot spots that seek to reduce the attractiveness of a target) (Porter

(continued)

1985). Though the macroeconomic factors are significant, the final decision will be made on microeconomic factors unique to the fraudster. The fraudster operation is often exponentially smaller than the target brand or even the brand operating in a region.

With a focused strategy that considers the economic decisions made by the fraudster, there may be simple changes to the product, distribution, or consumer sales that increase the risk of getting caught or the cost of conducting the crime. The fraudster may be able to be "hassled" out of the market.

The two key concerns are:

1. Structural entry barrier.
2. Expected retaliation of incumbent firms.

For food fraud prevention, the "structural entry barrier" would be the ability to produce a high-enough-quality product to deceive consumers and access to markets to sell the product. The "expected retaliation of incumbent firms" is more than just lawsuits and government enforcement. The "expected retaliation" includes proactive changes that increase the chance of getting caught and the cost of producing the product. The response includes changing products that are hard to duplicate, tightening markets controls, and shifting buyer or consumer concern. The entire product and sales life cycle should be reviewed for a defensive strategy to identify efficient and effective countermeasures and control systems (e.g., consider the entire beef supply chain with a concern of horsemeat). For example, there may be one key new step that undermines the ability of the fraudster to succeed (e.g., build a lab and outfit with new equipment to implement a highly effective horse species test). Also, if this type of highly effective countermeasure is found, then it might be proactive to go ahead and implement this across all products (e.g., use contract labs to conduct random tests on incoming beef products).

For food fraud prevention, there is a unique balance of factors. Generally, the food industry is very concerned with "contaminants" (defined by Codex as unintentional ingredients at an unacceptable level) and "adulterants" (intentional unauthorized ingredients), especially those that lead to health hazards or product recalls. Also, the threat of retaliation by the brand owners should be considered "very high." Then, generally, it appears that many food fraudsters are already producing food, so they have low entry costs, access to markets, and expertise in identifying fraud opportunities. The threat to the fraudster of detection for certain and specific fraud acts could be "very low." By conducting a methodical and holistic market analysis—including on the decisions for entering a new business—there are often low-cost and straightforward countermeasures and controls systems that can significantly reduce the "fraud opportunity."

With an active and efficient Food Fraud Prevention Strategy, the fraudsters may be "hassled" out of the market—trying to counterfeit this product may just be "too much trouble" at least compared to other products.

Competitor Analysis Factors

Competitor Analysis is a formal process or method to review other marketplace participants who challenge either the sales or margins of the product you sell. *Competitor Intelligence* is developing the analysis into actionable steps. Later, a corporate strategy is the system or cycle to review and manage the actions. Considering the "Food Fraud Prevention Cycle," competitor analysis applies to the "scanning" step, and *Competitor Intelligence* applies in the "countermeasures" step. A competitor analysis—and there is no reason why it would not apply to a fraudster—includes (Hussey and Jenster 1999):

- **Marketplace Competitor Analysis Factors Applied to Food Fraud Prevention:**
- **Market share:** For food fraud, the question is: is the counterfeit product "deceptive," taking direct sales from the brand (the consumer intends to buy the genuine product)?
  - ***For food fraud prevention,*** some fraudulent product is "non-deceptive" and is sold to consumers who are actually seeking counterfeit products, e.g., counterfeit luxury goods. These "non-deceptive" products would not offset a genuine product sale and do not lower the market price of the genuine good.
- **Price:** For food fraud, is the product undercutting the market price (with a lower price) or cannibalizing sales (taking sales at the same price)?
- **Brand positioning:** For food fraud, is the fraudulent product of high quality (a desirable product) or positioned as lower grade "substandard" or "non-deceptive" counterfeits? A problem could be if "deceptive" counterfeits were of lower quality and reduced the consumer satisfaction.
- **Advertising expenditure/customer acquisition:** For food fraud, is the fraudster either selling direct to buyers or comingling counterfeits in the legitimate supply chain? The direct sales advertising spend would be in terms of online spam emails, selling through online e-commerce auction sites.
- **Distribution coverage:** For food fraud, this would generally be where the fraudulent product is found in the marketplace.
- **Product line breadth:** For food fraud, whether fraud is occurring in only specific products or across the manufacturing steps.
- **Organizational structure:** For food fraud, are there large-scale fraudsters making similar products or many small operations making a wide range of products? There also may be a web of small suppliers making separate components that are combined later into larger operations.

  - ***For food fraud prevention,*** the countermeasures are very different for different types of fraudsters and different types of fraud acts in different markets and supply chains. General global testing of the counterfeit product in a market will remove that product from the market and generally, incrementally, reduce the "fraud opportunity." Specific testing on your receiving dock for a specific adulterant-substance—with a corporate policy to immediately report suspicious activity to US FDA, US FBI, and US Customs—will have a specific effect on your direct suppliers. General countermeasures generally help while specific countermeasures specifically help.
  - ***For food fraud prevention,*** to note, if the product is determined to be illegal and seized by the government, then it would be logical that the invoice is null-and-void… you are not liable for paying the invoice, and the fraudster loses the of the entire shipment.

- **Manufacturing capacity and capability:** For food fraud, is there enough volume and quality of the production? Often, the counterfeit product is manufactured on legitimate manufacturing operations during a "fourth shift" or "ghost shift." In other instances, a contract manufacturer may routinely cycle through the production of a wide range of brands so the local operations may not be aware the production is actually illegal.
- **Quality and customer satisfaction:** For food fraud, is the perception of quality and customer satisfaction lower for the fraudulent product? In some cases, the fraudulent product is of high quality—or at least at a quality level that does not lead to a reduction in customer satisfaction… *for now*.

  - ***For food fraud prevention,*** if a counterfeit branded product was recalled would it impact the entire brand or just one product line or sales in one region?
  - ***For food fraud prevention,*** to note, even though you did not make the counterfeit product, never touched it, never had a chance to authenticate it, and probably would have very limited legal liability… still, *your* product is recalled. *Your* product is withdrawn from the market.

Competitive Analysis: Scope of Response Decisions

Based on the urgency, there is a hierarchy of decision-making. These concepts can be integrated into a COSO-based Enterprise Risk Management (ERM/COSO) system. The analyses are defined by the urgency of a countermeasure and the breadth of the impact. Different levels in an organization address the specific analysis.

When a Food Fraud Prevention Strategy (FFPS) is in place, the different analyses provide valuable input across the Food Fraud Prevention Cycle (FFPC).

For food fraud, an incident or suspicious activity could quickly result in a product recall, so the analysis may often be much more urgent than for a typical competitor analysis. The "competitor analysis" could also be the same as an "incident review."

The types of competitor analysis are included here, and readers will recognize similarities to the terms or concepts from Enterprise Risk Management (ERM/COSO) (Hussey and Jenster 1999):

- **Modes of Competitor Analysis Factors Applied to Food Fraud Prevention:**
- **Operational Competitor Analysis:** For marketing, this is an immediate issue and impacts functional details such as manufacturing more products or rushing deliveries to meet a customer order. The response is within the control of the firm, and the impact is operational. For food fraud, this could be testing inventory and in-process products for an adulterant-substance that is reported to be in the marketplace, e.g., testing for nut allergens in cumin after an FDA alert.
- **Tactical Competitor Analysis:** For marketing, this is an emerging issue of a competitor lowering prices, increasing production, or changing their supply chain. The response does not need to be immediate but may have a longer-term negative impact if not addressed. The response requires a more detailed analysis of the competitor or the market, and the internal response is usually tactical. For food fraud, this could be an awareness of a shifting fraud opportunity that could become a suspicious activity, e.g., changing garlic market prices that could lead to more food fraud. A countermeasure may be to review how garlic is used in manufacturing, how it is authenticated or certified, reviewing the supplier networks, and considering new or expanded garlic authenticity tests or traceability.
- **Strategic Competitor Analysis:** For marketing, this could be an awareness that a new competitor may enter the market, a product innovation could be underdevelopment, or a regulation could significantly impact the supply of a raw material or finished good. The response would be a major corporate decision such as capital expenditure, and not responding could have a significant impact on the overall brand equity or even the viability of the firm. For food fraud, this could be conducting ongoing updates of the counterfeiter operations and products produced.
  - ***For food fraud prevention,*** for food fraud, it is important to address the urgent crisis but then to have a process for continuing to review the underlying root cause or system vulnerabilities. When there is new information, the first question should be "does this new information fundamentally change the way we understand our fraud opportunity?" The second question is then whether the changing fraud opportunity changes the vulnerability assessment and the position of this issue on the corporate risk map—specifically if the new information and updated vulnerability assessment shift the position of the issue to above with "risk tolerance."

Key Learning Objective 2: The Basic Factors of the Marketplace

This section reviews the basic factors in the marketplace. These are factors that define the actions of the different players and how their influence is connected.

The Key Learning Objectives of this section are

- (1) A review of the competitor analysis theories
- (2) The potential responses to marketplace changes
- (3) Then a specific focus on defensive strategies that apply to food fraud prevention

Competitor Intelligence Foundation: Review of Theories

As summarized in the book *Competitor Intelligence*, several key theories form the foundation of competitor analysis (Hussey and Jenster 1999). The previous section on *Competitor Analysis* focused on the marketplace and modes action, whereas *Competitor Intelligence* is focused on how to understand the adversaries that could include fraudsters. The researchers focus on "individual/micro view" versus "societal/macro view" and "natural selection" versus "managerial choice." The micro/macro view is consistent with food fraud prevention theory, where the fraudsters are impacted by macroeconomic factors, such as shifting market prices, but their final decision is based on microeconomic factors, such as their own access to adulterant-substances.

- **Resource view:** Hamel and Prahalad (1990) focused on how a company's assets and capabilities provide gaps that competitors will attack (Hamel and Prahalad 1990). For food fraud, a fraudster's resources cannot be judged very accurately and are often not a global factor since their value is individually very low—the resources of one fraudster are very small in relation to the entire global market. Also, the fraudster's resource value is judged by the very unique and individual fraud opportunity. The global price of cocoa is a factor but nowhere near "the" deciding factor for an individual fraudster.
- **Positional view:** Porter (1985) and Day (1997) take a more proactive approach to build upon the "resource view" to support changes that create a more solid position for the brand in the market (Porter 1985; Day 1997). For food fraud, this may be to create relationships and supply chain security to reduce the fraud opportunity. This may also include implementing business efficiency tools that increase the transparency of each transaction as well as the product itself and the supply chain partners.
- **Game theory:** Teck and Weigelt 1997 examine "moves and countermoves of competitors" (Ho and Weigelt 1997). The competitors are rational and calculating. The underlying focus is on two competitors competing for the same prize.

For food fraud, this is inefficient to apply since it is not clear what game the fraudster is playing (e.g., adulterant-substance or stolen goods or tax avoidance smuggling) or even if the fraudster is now playing! Unless there is other intelligence, we don't know if the fraudster is attacking now. Furthermore, when we put countermeasures or control plans in place, the fraudster will usually be tipped off and then logically modify their attack… essentially not just changing how they are playing but would completely change the game they are playing.

- **Behavioral theory:** Meyer and Banks 1997 shift focus to how and why "cognitive and behavioral" factors, "including psychological biases and motivational forces," impact decision-making (Hussey and Jenster 1999). For food fraud, this is challenging since there are so many variables for each fraudster. There is no one detailed specific type of fraudster. In criminology this would be focusing on the specific criminal (traditional criminology) and not the space of crime (crime prevention or Situational Crime Prevention).
- **Public policy view:** Areda 1986 focuses on "what is legal/illegal" to help corporate strategy avoid concerns such as anti-trust issues (Hussey and Jenster 1999). For food fraud, this provides macro-level considerations of the source economy (where the fraudulent product is produced) and the market factors. The most important point is beyond what is "illegal" but on what is actually enforced and prosecuted. There are many countries with very strong intellectual property rights laws, but they only apply resources to enforce imported product, not products being exported. For example, the customs agencies for most countries have a much more thorough focus on monitoring and inspecting imported products rather than exports. Also, many countries are going through civil wars or other types of crises where the legislature or society could not justify a shift in resources from public health to intellectual property rights. The point is that the laws should be considered in relation to the level and efficiently of enforcement and prosecution to reduce the fraud opportunity.

Porter's work applies to food fraud prevention since the concepts are a balance of macro- and micro-factors with the managerial choice focus but also trying to change the underlying marketplace to influence natural selection. Porter's works combine these business theories with criminology theories (e.g., Situational Crime Prevention, routine activities theory, and rational choice theory).

The underlying theories are broadly researched, published in journals, and fundamentally sound. The Food Fraud Prevention Cycle (FFPC) and Food Fraud Prevention Strategy (FFPS) are an adaptation and application of many theories.

Competitive Analysis: Responses

There are a range of food fraud prevention responses that include offense, defense, or collaborate (Porter 1980, 1985; Hussey and Jenster 1999). The full Food Fraud Prevention Cycle (FFPC) should be considered when selecting risk treatments which would include the cost and potential for success.

- **Responses from Competitor Analysis**
- *Offense* would be attacking the competitor, such as by flooding the market with product. For food fraud, this could be investigating and prosecuting the fraudsters or otherwise disrupting their operations.
- *Defense* would be a deterrent to reduce the competitor benefit of attacking your product. For food fraud, this could be implementing countermeasures or control systems that increase the risk of getting caught or the cost of conducting the crime. For food fraud prevention, deterrence is combating a specific type of attacker and attack, e.g., actions that target the melamine adulterant-substance at bulk milk collection sites. Of course, detection is a crucial part of a deterrent but only if it is applied to a specific question. For example, testing for the melamine adulterant-substance across the market is helpful but is not a targeted approach.
- *Collaborate* would be to merge or form a partnership with the competitor. For food fraud, this may not seem like an option, but there are stories of brand owners who sought new contract manufacturers who were suspected to be the provider of high-quality counterfeits.

While going on the "offense" may feel like the most rewarding and impactful response, the nature of the fraudsters and the fraud is that such that the actual reduction in the fraud opportunity is negligible compared to prevention efforts. While it is essential—*critical*—to pursue enforcement and prosecution, it plays only a minimal role in prevention. Fraudsters don't think they will get caught.

For example, suing and prosecuting a fraudster is important but could be extremely costly (e.g., international courts, a long case, complex discovery process, expensive and long-term evidence storage costs, etc.) and provide little financial return (e.g., the criminal may have spent all the money or already laundered it in a secure location as well as a traditionally low repayment), and another criminal could quickly replace the gap left by the fraudster (see US Guidance for US Attorneys for prosecuting IP cases).

The "collaboration" is often not a direct option when addressing product fraud since the partners are criminal organizations.

The response that is most efficient and effective is "defense" or prevention. While the competitive analysis will start with understanding the fraudsters as a competitor, the countermeasures and control systems should shift to leverage criminology and specifically Situational Crime Prevention. Crime prevention has been adequately developed, implemented, and studied. With an ongoing competitor analysis, the criminology theories can be instrumental in reducing the "fraud opportunity."

The goal is to change the operations and market, so the fraudsters do not find an attractive "fraud opportunity." The countermeasures and control systems do not need to be perfect and cannot be impenetrable, but they need to be just enough of a hassle or danger to "dissuade" the skittish fraudsters from acting. There are plenty of fraud opportunities in the world, and an effective Food Fraud Prevention Strategy can be light as long as it is very focused.

Competitor Analysis: More on Defensive Strategies

In *Competitive Advantage* Michael Porter reviewed "defensive strategies" that are adapted to combat the fraudsters (Porter 1985). He stated "Every firm is vulnerable to attack by competitors. Attacks come from two types of competitors – new entrants to the industry and established competitors seeking to reposition themselves" (Porter 1985).

An incredibly important point that applies to strategy but also to financial decision-making and return on investment (ROI) is that reducing a risk or vulnerability is not seen as "strategic" or a main function of the business. "Instead of increasing competitive advantage *per se*, the defensive strategy makes a firm's competitive advantage more sustainable." So to be realistic, presenting fraud reduction projects are essential but will be less understood and be less exciting than other options (Fig. 14.2). This is a significant reason why it is best to focus the justification on the ERM problems that are above the risk tolerance rather than increased benefits such as reducing counterfeits to increase sales.

The fraudster's goal is to make money, so the financial factors should be the prime focus of the defensive strategies. The defensive strategies apply to food fraud prevention when the goals are to:

- **Lower the probability of attack:** For food fraud, this could be increasing the fraudsters' risk of getting caught or the cost of conducting the crime. This is classic crime "prevention" or "reduction." Examples could be to increase the complexity of the recipe, authentication technologies, or packaging that is required by the fraudster to deceive the buyer or consumer. Other options could be channel blocking by strengthening the connection with buyers such as direct shipments, stronger distribution relationships, or more robust traceability systems. In addition, using formulations or manufacturing that requires massive "minimum economic scale" can both challenge the required capital expenditures and also increase the production volume needed for the fraudster to compete.
- **Divert attackers to less threatening avenues:** For food fraud, there is more of a goal "dissipate" or eliminate fraud opportunity of the crime rather than "displacement" to another time, place, or target. That said, countermeasures and control systems could focus on the highest and most impactful fraud opportunity so fraudsters "don't even try" to attack specific products or markets.

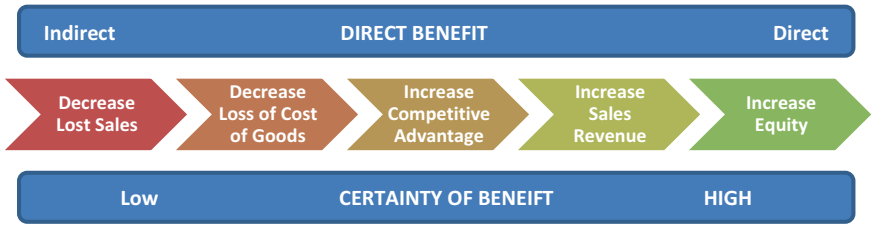

Fig. 14.2 Relationship of benefits and certainty of business losses

- **Lessen the intensity or impact of the attack:** For food fraud, this could be increased rapid detection or to shift the criminals to lower volume or less risky products. This is classic risk mitigation—reducing the impact of an event when it does occur.

A key focus should be on increasing the fraudsters' awareness that there are countermeasures and control systems in place and that there is an increased risk of getting caught and the increased cost of conducting the crime. Porter refers to this a "Signal Commitment to Defend" which is:

- **"Announce intentions by management to defend marketshare in the industry":** For food fraud, this could be subtle mentions of food fraud prevention in supplier agreements or contracts that announce or allow authenticity testing.
- **"Corporate pronouncement of the importance of a business unit to a firm":** For food fraud, this could be statements of the commitment to food fraud prevention including actions, countermeasures, prosecution, etc.
- **"Announcement of intention to build adequate capacity ahead of demand":** For food fraud, this would be statements that demonstrate long-term, future, sustained commitment to implementing and evolving the Food Fraud Prevention Strategy.

While it may seem that a lot of complex and resource-intensive proposals have been presented here, in reality, after the vulnerability assessment and strategy have been developed, the first and most impactful countermeasures and controls systems are usually minimal. Elsewhere it has been noted that probably 99% of the necessary audits, information, inspections, programs, and processes are already in place but just not organized within the Food Fraud Prevention Strategy (FFPS). A systems approach and perspective can lead to a straightforward yet effective reduction of the "fraud opportunity."

If the competent detection programs are put in place with no consideration of communication to the bad guys, then you will catch bad product but not prevent it from getting into the supply chain. There is a saying:

"Remember, the goal is not to catch food fraud but to prevent it in the first place."

Sidebar: ERM for Defensive Strategy Decisions—What Must Be Done and How Much Is Enough

The fraud vulnerability is framed in Enterprise Risk Management (ERM) terms, where if a "lost sales" situation is above the "risk tolerance" of the enterprise, and then the ROI of other projects is irrelevant. If the new incident is above the "risk tolerance," then the resource allocation decision-making is the "ROI" of only reducing the current situation back to within control.

Without first establishing the vulnerability on the corporate risk map, there is no tangible, measurable argument that this is a problem that needs to be addressed (e.g., no consequence for *not* acting) or "how much is enough"

(e.g., a bottomless pit of "how little do you dare to do" or "what's the minimum to make it look good"). In some cases, the ERM system will allow more risk-taking, but the real result is that there is a logical and process-based method to determining "what must be done" and "how much is enough."

Competitor Analysis: Tests for Evaluating Defensive Tactics

Porter provides a series of tests for evaluating the effectiveness of defensive tactics (Porter 1985):

- ***"Value to Buyers":*** While the main focus of food fraud prevention is reducing your own fraud opportunity, Porter makes a good point that "A tactic directed toward buyers will not be effective for defensive purposes unless the buyer values it." For maximum value, the prevention strategy should be clear, and the buyers should be educated on why this is important. For maximum impact, buyers should be made aware of and educated to value the countermeasures and control systems. Also, the new, expanded, or new resource requirements need to be included in the buyer key job responsibilities and success metrics (see Wal-mart Sustainability section).
- ***"Cost Asymmetry":*** Countermeasures and control systems should be selected that create the "greatest relative cost disadvantage" for the competitor. For food fraud, this could be including a complex technology or process that is already implemented in other parts of the firm but are very different from usual fraudster manufacturer operations.
- ***"Sustainability of Effect":*** To be most efficient, tactics should be selected that have a longer-term effect. For food fraud, the fraudster response should be considered. The fraudsters *will* respond and adapt. There is a saying: "The chess match of food fraud prevention should consider 'how *will* the fraudsters circumvent this system and when *will* it occur.'" That said, in some cases, there can be so many efficient and costly countermeasures and control systems that increase the fraud opportunity so much that the fraudster shifts to another target company.
  - From criminology, while considering the first move to address the fraud, there should be an awareness that the food fraudsters may be operating within the legitimate supply chain so their temptation—or routine activities—may lead their fraud to adapt. ***Adaptation*** (criminology): "refers to a longer-term process whereby the offender population as a whole discovers new crime vulnerabilities after preventive measures have been in place for a while. Paul Ekblom, Ken Pease and other researchers often use the analogy of an 'arms race' between preventers and offenders when discussing this process. So, in time, we can expect many crimes that have been reduced by preventive measures to reappear as criminals discover new ways to commit them." (For more see Ekblom (2013) and Clarke and Newman (2005).)

- ***"Clarity of Message":*** "A firm should select defensive tactics it is confident that potential challengers will detect and will understand the implications." The bad guys need to understand they have in an increased chance of getting caught. The bad guys need to be "dissuaded" from attacking you. If they don't understand—or don't believe—your threat of action, they will keep attacking.
- ***"Credibility":*** From Criminology, there is an "anticipatory benefit" where criminals will reduce their crime when there is an announcement of additional investigation or scrutiny (Smith et al. 2002; Clarke and Eck 2014). The benefit will last for a short while before the criminals will check the actions. For defensive strategies the tactics should be believable and actually increase the risk of getting caught, the implementation should be demonstrated, and the bad guys should view them to be permanent or long-lasting.
- ***"Impact on Competitors' Goals":*** The countermeasure and control systems should be as measurable as possible. This is very difficult for vulnerability reduction activities, but leverage quality management principles could be a foundation. For example, a quality management system does measure the final output (e.g., number of fraud incidents) but really focuses on the precursor root causes of nonconformance (e.g., a wire connection is weak, so the link is redesigned and checked during manufacturing). For food safety and HACCP, this is identifying critical control points and monitoring compliance (e.g., a refrigerator is kept at a constant temperature). For food fraud, there could be other critical control points that are monitored (e.g., every spot buy, emergency raw material ingredient purchase passes a full-spectrum, nontargeted, authenticity test).
- ***"Matching by Other Incumbents":*** If more market participants include similar countermeasures and control systems, the entire supply chain should become more secure and reduce the "fraud opportunity." If best practices are shared, and resources are combined, then innovations could further reduce the vulnerabilities. A fraud incident hurts the entire market.
- ***"Other Structural Effects":*** This is not just an "other" category but is a focus on leveraging—or at least supporting—other business operations and countermeasures. For example, a supply chain logistics program could include tamper-evident tags to secure truck trailers. The record of the feature being secured is valuable to reduce the fraud opportunity, and maybe an incremental action of tracking the time between close and open could provide benefit for both the security and the fraud reduction.

After reviewing the interdisciplinary strategies from marketing, criminology, food science, and others, it becomes more clear that defensive tactics are the most efficient and effective countermeasures and control systems. Also, once the basic business factors are considered, there is an important insight that the "fraudster" is just another "competitor."

Key Learning Objective 3: Scenario Development that Helps Evaluate Countermeasures and Control Systems

This section reviews the scenario development that will help to understand the interaction of the factors and dynamics to help identify the most efficient and effective countermeasures and control systems.

The Key Learning Objectives for this section are
- (1) Understand scenario development
- (2) Review food fraud prevention scenarios
- (3) Consider the development of unique scenarios.

Industry Scenarios: Response

In *Competitive Advantage*, Michael Porter emphasizes the value of creating a series of "industry scenarios" to address uncertainty. The process identifies the concerns, assumptions, variables, and then to gauge the estimated financial impact. Porter provides guidance on the range of scenarios that provide a full insight on the problem which includes worst case, best case, then the most likely case, or, more appropriately, several most likely cases that are based on several fundamental assumptions or variables.

For food fraud, the scenario planning would consider a range of issues such as:

- Increased government scrutiny.
- Major incidents that create consumer concern for a specific product.
- Increased testing technology that identifies an unknown fraud act.
- Changes in the legal liability from lawsuits.
- Changing supply that creates new or emerging vulnerabilities.
- Changing consumer preference for a product with a higher fraud opportunity.
- And many others.

These industry scenarios are helpful when formulating the forward-looking "corporate strategy." To benefit from opportunities and avoid losses, there should be a dynamic link between the industry scenarios (e.g., the underlying shifting assumptions, variables, etc.) and the corporate strategy. The corporate strategy would direct actions that optimize the outcomes for each of the scenarios or as many as practical. There may be a scenario where the future is too risky, and a quick exit may be the best strategy.

Porter presents five basic scenario responses for dealing with the uncertainties (Porter 1985):

1. ***Bet on the most probable scenario:*** This is predicted to be the most likely future state so the corporate strategy would focus on this scenario but with a balance and consideration of other futures. The level of confidence in this scenario will

dictate how much focus is allowed here. It is dangerous to focus *only* on this scenario.

2. ***Bet on the "best" scenario:*** This scenario has the highest return so—if this does occur—the firm should be prepared to excel. Of course, in an ideal world, the "most probable" and "best" are the same. Longer-term corporate strategy can help the firm evolve their market position to this ideal spot.
3. ***Hedge:*** A more significant focus here is on satisfactory results under all of the scenarios. This is an ideal option when there is considerable uncertainty in the marketplace, society, consumer preferences, or regulations. This is sometimes referred to as "minimax," where "a player makes the move that minimizes his maximum loss" (Porter 1985).
4. ***Preserve flexibility:*** Here final decisions are held off as long as possible to wait until uncertainties are more apparent or variables have revealed themselves. This is sometimes referred to as a "fast follower." "A firm preserving flexibility often pays the price in their strategic position because of first-mover advantages gained by firms that commit early." Sometimes the "fast follower" requires a very fast, costly, and haphazard response. Conversely, early movers can put processes in place that increase the barriers to entry for the fast follower.
5. ***Influence:*** Here the firm uses the longer-term vision to try to encourage or change the future direction. This may include collaboration in industry associations, supporting technological changes, channel policies, government regulation, and other influence of causal factors. "Since a casual factor in casual user demand for chainsaws is wood burning stove installations, a firm might try to influence stove demand. This might involve coalitions with wood burning stove manufacturers, or advertising that stressed the value of wood-burning stoves at the same time that it advertised chainsaws." This strategy can be very costly and time-consuming and take focus from other more direct actions, and the final influence is hard to measure.

Two primary considerations in setting corporate strategy—or how much to focus on each scenario—are (1) degree of inconsistency of strategies for alternate scenarios and (2) relative probability of the scenarios. If there isn't much difference between the worst and best scenarios, then there is less benefit to influencing factors. Also, if there is a scenario that has a high probability—or if they all exhibit great uncertainty—then there may also be less benefit to hedging or influencing.

Methods of Competitor Analysis

The best model to use for competitor analysis is one that is fully implemented and already used at your company. It is recommended that you find the method and review the content. Use the method for your own assessments and analysis in developing the Food Fraud Prevention Strategy. After refining the analysis and applying it in your company's system, only then is it recommended to engage the marketing

team. Adding fraudsters or counterfeiters to the formal and official competitor analysis will sound absolutely crazy until they see an example, completed, and implemented.

The process for conducting and updating a competitor analysis is similar to the updates for the FFPC steps of Incident Review, Scanning, and Public Policy.

1. Define the question, the process, and how the result will be used
2. Consider if there is enough of the right information to address the specific question
3. Assign an accountable party or person
4. Identify the sources of information
5. Assign a function to monitor sources of information
   (a) External
   (b) Internal
   (c) Market research
6. Review the new information in relation to the fraud opportunity, to vulnerability assessment, and to plot on the corporate risk map.

Whether your company formally includes fraudsters as competitors or not, this is an effective resource for your Food Fraud Prevention Strategy (FFPS).

Case Study: Market Share of Fraudsters in the Food Flavor Industry

The book *Competitor Intelligence* included a chapter on "The World Flavor Industry" (Hussey and Jenster 1999). One section reviewed the market shares (Hussey and Jenster 1999). The specific companies and names are not important, so only abbreviations are included. There is a common estimate that the general worldwide counterfeiting is "5 to 7%." If that estimate is applied to the market and then the total of counterfeits, then counterfeiters, as a whole, could be the sixth to the 11th largest competitor (Table 14.1).

While this general estimate of "5 to 7%" is easy to apply to a table like this, the real fraud opportunity is harder to assess. First, the approximately $130 million sales at the 5% market share level are probably not from one company and actually could be from literally thousands. Second, the same type of fraud is probably not occurring at each company, so there is probably no single countermeasure or control system that will address all fraud. Finally, this global, general estimate does not consider the nuance of unique supply chains or specific supplier-buyer countermeasures and control systems.

So, it is efficient to compete against your total vulnerability rather than against each individual fraudster while realizing that each fraudster is not influenced in the same way by the macro- and micro-factors. The most efficient and effective activity

Table 14.1 Example of market share of product fraudsters in the food flavor industry—all fraudsters are combined into one estimate

Company	Sales ($ millions)	Percent
A	328	12%
B	298	11%
C	221	8%
D	206	8%
==fraudsters if 7%	188	
E	163	6%
F	150	6%
G	145	5%
==fraudsters if 5%	130	
H	125	5%
I	120	4%
J	119	4%
K	100	4%

Adapted from Hussey and Jenster (1999)

is to try to understand common influences or motivations. The fraud opportunity is the attractiveness of your company for an attack. The one area where you have the most clarity and control is your company as a target. "Target hardening" is under your control.

This case study is an example of why the individual fraud opportunity should be considered not only for selecting countermeasures but also for even making the first, high-level, "10,000 foot" estimates of the problem.

Conclusion

The product and food fraud problem is very complex and based on a wide range of problems from across the legitimate and illegitimate supply chain, and thus the response is interdisciplinary. A subset of marketing is competitive strategy including competitor analysis. ***The first conclusion is*** that for business people who study business activities—including product and food fraud—it is logical to conduct specific studies of the patterns and responses by the adversary. For criminologists studying crime, it is logical to understand routine activity theory and rational choice theory. The logical expansion is to consider the counterfeiter as a competitor. ***The second conclusion is*** that a critical aspect of competitive strategy is to understand inherent vulnerabilities. While attacking and growing in the market, it is also essential to consider vulnerabilities and defend current positions. The logical expansion is to not only protect the products and prosecute the criminals but also to consider actions that reduce the fraud opportunity—increase the risk of getting caught or the cost of conducting the crime. ***The final conclusion is*** that the theory is put into

action by first considering overall strategy scenarios and also of building model scenarios to review specific incidents. It is efficient to consider the counterfeiter as a marketing competitor.

There is a saying:

"Why not just consider the fraudster as another competitor? The logical and methodical step would be to include fraud business 'barriers to entry'?"

Appendix: WIIFM Chapter on Marketing

This "What's In It For Me" (WIFFM) section explains why this chapter is important to you.

Business functional group	Application of this chapter
WIIFM all	Overall, this chapter provides an introduction and insight on the part of the food fraud prevention strategy that may not have been considered which is classifying the fraudster as a business competitor
Quality team	This chapter provides a structure to review and evaluate the fraud opportunity as well in terms of market position and of the fraudster as a business competitor
Auditors	This chapter mainly provides an overview of how companies must position and then create their food fraud prevention strategies to address fraudsters as business competitors
Management	This provides an explanation of why and how marketing should consider the counterfeiters as a competitor
Corp. Decision-makers	Generally, this provides a Michael Porter-based—*Competitive Strategy* and *Competitive Advantage*—Overview of how competitors are assessed

Appendix: Study Questions

This section includes study questions based on the key learning objectives in this chapter:

1. Discussion Question.
   (a) Why does marketing science provide valuable insight for FF prevention?
   (b) How does FF prevention benefit from competitor strategy and competitive analysis?
   (c) Why is it efficient to consider the fraudster as just another business competitor?

2. Key Learning Objective 1.
   (a) What is a "Five Forces Analysis"?
   (b) Why does a "Five Forces Analysis" apply to FF prevention?
   (c) How is the "Five Forces Analysis" a vital resource for selecting countermeasures and control systems?
3. Key Learning Objective 2.
   (a) What is "Competitive Analysis"?
   (b) How do "Competitive Analysis" defensive strategies apply to FF prevention?
   (c) Why does "Certainty Of Benefit" hinder resource allocation for addressing FF prevention?
4. Key Learning Objective 3.
   (a) What are "Industry Scenarios" in a business strategy?
   (b) How is a "Competitive Analysis" method approach applicable for FF prevention?
   (c) How do each of Porter's "Five Basic Scenario Responses" apply to FF prevention?

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