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WHAT COULD GO WRONG?



Omar Sacirbey
MJBizDaily
Reporter

Barely half a year ago, the marijuana industry was barreling into the new decade flush with confidence and immense growth potential. Cannabis companies were hiring new executives with the necessary experience to meet the challenges of the new growth phase, expanding production, exploring mergers, watching the stigma around marijuana decline and propelling legalization efforts in new markets. The industry also saw increased access and improved relations with government officials and regulators.

Then, not one, but two disasters struck the cannabis industry: the vape crisis of late 2019 and the COVID-19 pandemic that we're currently facing.

For an industry often compared to flying an airplane while building it, this was like flying and building the airplane, then getting hit by lightning and flying into a hurricane.

The two crises had similarities, demanding that cannabis executives be composed and quick-witted enough to make innovative pivots—such as using unsellable vape oil for other products and raising a squadron of delivery drivers in a weekend—and responsible and ethical enough to take proactive measures for the public good, such as ramping up online ordering and delivery efforts to help fight COVID-19.

But the crises were also different. The vape crisis put cannabis executives under an unexpected and unwanted spotlight, threatening an important and quickly growing revenue stream, and ultimately highlighting the safety advantages of the legal market over the illicit market. COVID-19, on the other hand, hit the entire U.S. and most of the world but often cast cannabis companies as part of the cavalry—providing an “essential” service but demanding it be delivered in a responsible manner that put safety before profit.

Indeed, cannabis executives learned much from the vape crisis that helped them during the current pandemic, from the practical, such as adjusting manufacturing processes and supply chains, to the intangible, such as composure and innovation.

In the following pages, we've compiled dozens of valuable crisisprevention and -management tips to help cannabis professionals weather this storm—and the ones that will inevitably follow.

If executives harness these insights, they will be flying an airplane that is sleeker and safer than before.

IMAGINING DISASTERS

Predicting the next cannabis industry crisis and brooding over all the existential threats to your business can be a wearisome and stressful exercise, but it's an exercise that could help you be calm and ready when disaster strikes.

What are some possible threats to the cannabis industry that your business could get swept up in, and what are some dangers that could destroy your business specifically? How does one go about assessing the threats that might be out there? A good place to start is with research.

For example, vaping, as ubiquitous as it seems today, is still a relatively new consumer product that hasn't been subject to long-term testing and can't provide the level of certainty that comes with other highly regulated product such as alcohol and medicine. Here are just a few of the questions that don't have answers yet:

- What are the effects of combing heat and oil and ingesting the vapor into the lungs?
- What are the components of the vapor and do those components change based on temperature?
- Are some extraction methods better than others?
- Are non-cannabis, botanically derived-flavors safe when combined with cannabis oil and vaped?

More still needs to be known about how cannabis affects specific conditions. For example, studies have shown Rick Simpson Oil to be both very effective and ineffective against cancer tumors. And because some chemotherapy medicines are metabolized through the liver, some oncologists advise patients to avoid CBD oil while receiving treatment.

These contradictory study results and the dearth of scientific information mean cannabis companies have to be careful about claims and warnings.

Here are some disasters that could—and have—hurt cannabis businesses:

- A pandemic or some other emergency forces you to close your store just days after opening (Pure Oasis, Massachusetts).
- A natural disaster, such as a hurricane or unanticipated cold snap, destroys your facility and/or all of your product. (Encanto Giving Tree, Puerto Rico; Los Sueños Farms, Colorado.)
- Your CFO commits fraud that results in a U.S. Securities and Exchange Commission investigation and millions of dollars in fines. (Marrone Bio Sciences, California)
- One of your top executives accuses you or leaders in your company of abusing hard drugs, resulting in clients canceling contracts. (Safe Harbor, Colorado)
- One of your company leaders suddenly dies (Medicine Man Technologies, Colorado).
- The company you rely on for packaging goes bankrupt shortly before it is to start packaging your product—and you can't get your product back. (Sexxpott, California)
- Fire destroys your facility and/or most of your product. (Bloom Farms, California)
- An explosion caused by improperly stored butane injures employees and damages an extraction facility (Higher Level Concentrates, Oregon)
- The real estate you purchased for your outdoor cultivation site is contaminated with heavy metals, rendering it useless for outdoor cultivation.

These are only a handful of the types of disasters that can damage or destroy your business. And while you can't specifically prepare for all of them, the tips included in this report provide a solid foundation to respond to a gauntlet of possibilities.

CONTROLS AND TESTING

Many crisis-causing events might originate within your operations, but a rigorous set of controls and tests throughout your production and manufacturing can reduce—or even prevent—critical problems within your operations.

What needs to be tested, and how and by whom, depends on what your business makes—vape oil cartridges, edibles, pills, something else? Do you “just” grow or sell cannabis itself? “You may not be able to predict the specific crisis, but you can predict there will be a crisis,” said Matt Ingram, product and development manager at Cresco Labs, a multistate operator based in Chicago.

So, what controls can marijuana businesses institute to protect themselves from catastrophe? Here are some examples for different verticals in the cannabis supply chain.

Cultivators

Cultivators generally face two types of emergencies:

- Crop contamination.
- Equipment failure.

Either of these scenarios could result in the loss of hundreds of thousands of dollars of product—or worse—could lead to the sickening of consumers.

To avert equipment failures, experienced growers should have backups for key pieces of equipment, particularly fans, air conditioners, dehumidifiers and lighting. Large cannabis companies that have many air conditioners should expect at least one to occasionally break down on a hot day.



Photo by Mark Blinch

It's also better to have multiple units. “For me, it's flexibility and redundancy,” said Shane McKee, owner of Shango Premium Cannabis in Portland, Oregon. If a grower is using just one or two units large enough to cover a room, failure of a single unit could lead to the crop being destroyed by heat from lights. Deploying more smaller units means that if one goes out, others can still provide enough cooling to protect the plants—provided the units are distributed intelligently.

For example, if you have a room with four air conditioners, equip the units with portable accordion ducts that can distribute air throughout the whole room. That way, when one unit fails, air from the other three will keep those plants covered.

McKee also has a full-time technician on staff to maintain the best climate and put out fires if necessary.

Automated systems, such as light dimmers that trigger when there is an HVAC issue, can also help manage and avert crises in the cultivation process.

To stave off contamination, successful cultivators practice a regimen of sanitation that includes scrubbing down rooms after plants have been removed and making workers wear protective clothing when in plant rooms. Cultivators also have team members inspect the rows of plants for problems. If mold is found, for example, the grower should throw away all the plants in that room.

Lastly, cultivators can save themselves trouble by having their own in-house testing capabilities.

Vape Oil Cartridge and Concentrate Makers

The recent vape oil crisis demonstrated how little the cannabis industry knows about vaping safety—about the materials being vaped, the equipment doing the heating and what's in the resulting vapor being inhaled.

Still, there are guidelines to follow that can help prevent problems.

As with cultivators, having in-house testing capabilities will provide extra control and protection around the products being distributed to retailers, even if your suppliers are expected to test the inputs before they get to you.

That process should include testing the oil for contamination, such as heavy metals or mycotoxins, but also for:

- Proper pairing of cartridges and oils. “The temperature at which the battery heats the cartridge and the porosity of the wick, or the core, those are really important parameters,” Cresco’s Ingram said.
- Correct metering of doses.
- Heating consistency. Studies from Portland State University show that concentrates heated at too-high temperatures can produce an increase in carcinogens such as benzyne. But for many of the inputs, no external safety data is available.

Manufacturers can also employ third-party testing labs and tracking systems, such as microchips, to maintain visibility throughout their processes.

Edibles and Infused Products

Compliance and testing are also key to preventing production or safety hazards for edibles and infused products, such as contamination or inconsistently dosed products that might result in bad or unsafe consumer experiences.

Maureen McNamara, CEO of Denver-based Cannabis Trainers, offered these tips for areas to monitor:

- **Time and temperature:** Food prep areas are typically in the 70-80-degree range, while bacteria need an ideal temperature between 41 and 135 degrees and roughly four hours to grow to harmful levels. To reduce contamination risk, work in small batches. This will allow food to be cooled quickly and kept cold when necessary.
- **Cooking:** Work with your local health department to develop procedures that will ensure oil is cooked to a high enough temperature (while not messing with your chemistry) to eliminate the possibility of botulism.
- **Cleaning and sanitizing:** Pathogens grow well at room temperature. All food contact surfaces must be cleaned and sanitized whenever you change tasks and at least every four hours.
- **Personal hygiene:** Because most cannabis foods are created as “ready to eat,” frequent, thorough hand-washing is essential. The FDA recommends a 20-second hand-washing procedure that involves hot water, soapy lather, vigorous rubbing for at least 10-15 seconds, rinsing well and using a single-use towel to dry your hands. The FDA also requires beard nets for facial hair that is 1 inch or longer. This guidance has become even more prominent since the onset of the COVID-19 pandemic.

Multiple levels of testing also are key when it comes to dosing your products consistently and safely. The most accurate and evenly distributed edibles are tested numerous times during the production process.

Jaime Lewis, a California-based consultant and former CEO of Colorado-based Mountain Medicine, noted that she would test trim that was mixed into butter when it came in, test the trim again after decarboxylation and then test the final product.

VENDORS: VET AND HAVE BACKUPS

All cannabis companies in the supply chain—cultivators, product manufacturers, retailers and others—depend on other vendors to provide them with supplies, product inputs and retail brands. While your company might operate meticulously and maintain strict compliance, some vendors might not.

And if something goes wrong—a crop fails because of faulty equipment, a vape cartridge brand is accused of using banned compounds such as medium chain triglycerides (recently banned by Colorado and a few other states) or a retailer sells infused cookies with incorrect labeling—blaming your vendor isn't enough to protect you.

It is also important to have backups that you have already vetted to fill holes created by unexpected supply-chain disruptions or vendors that fall short of expectations.

Some vetting procedures are applicable to any cannabis businesses, while others are specific to what kind of business you have. But, done correctly, it is a multistep, multilevel process that includes:

- Background checks on management teams. Scrutinize their resumes and speak with former colleagues and peers.
- Inspections of vendor facilities and equipment. Note the year of manufacture, the make and model of equipment and the condition.
- Selecting vendors whose facilities and equipment are Good Manufacturing Practice (GMP) and International Organization for Standardization (ISO) certified.
- Reviewing copies of licenses, certifications, compliance history records, safety records, financial records and standard operating procedure manuals.
- Identifying their key vendors and requesting compliance and performance histories to assess their reliability and gauge the potential for disruption.
- Assurance that the vendors can verify the ingredients listed on their labels.
- Testing shipments from vendors to ensure they meet regulatory and compliance standards—including your internal standards.

Asking vendors to open themselves to this kind of vetting isn't just accepted but is increasingly expected in the wake of the vape crisis.

Following these vetting guidelines will help you find reliable and trustworthy vendors, but it is also important to have backups in case your regular vendor is disrupted—by fire, natural disaster, labor issues, etc.

These backups should be prepared to pass the same vetting process as your regular vendors or you will be introducing additional unnecessary risks to your operations.



Photo by Matt Staver

ADDITIVES

The vape crisis confirmed that many additives—particularly vitamin E acetate, polyethylene glycol and medium chain triglycerides—frequently used in vape oils were potentially hazardous when vaped. Many states have since banned these and other additives, but marijuana businesses operating in markets that haven't should not wait for regulatory compulsion to change their oil manufacturing processes and stop using these additives.

There is substantially less information about another category of commonly used additives: botanically derived terpenes, or terpenes derived from a plant product such as limonene from lemon or linalool from lavender.

Botanically derived terpenes are typically used to add flavor to vape oils. While they weren't implicated in the recent vape crisis, little is known about what happens to them when they are added to oils or when they are heated.

Researchers at Portland State University, led by Rob Strongin, found that of the known toxins formed during vaping, more toxins came from terpenes than from THC. Terpenes occur naturally in cannabis but at lower levels than seen in some products. The study revealed that some vendors added up to 30% (or more) additional terpenes to their products.

There is little to no safety data on how these compounds break down when heat is added or what effect they might have when inhaled.

Because of these unknowns, a growing number of cannabis standards organizations and scientists are warning against adding botanically derived terpenes to vape oil products.

The safer routes, observers say, is either "whole plant extraction" or THC-only/CBD-only extracts.

But not all methods of whole plant extraction result in the same outcome, which is important for those who want terpenes retained in their product. Terpenes are volatile and quickly degrade when heated. That means whole-plant extraction done with solvents that require high heat, such as alcohol, will result in a loss of terpenes.

On the other hand, terpenes are better retained with supercritical CO₂ extraction, which is done cold, preventing the degradation from heat. The equipment for this process is more expensive than for other extraction methods, but it seems to be the best option for those who want to retain terpenes and avoid having to add them.

Many cannabis companies are beginning to abandon botanically derived terpenes and other terpenes in favor of whole-plant oils and CBD- and THC-only oils.

CONSUMER EDUCATION

Educating consumers and the broader public about all aspects of the cannabis industry is of greater importance than in most other sectors because of the federally illegal status of marijuana and the stigma that is still attached to the product.

Industry evolution, accelerated by the vape crisis, has forced marijuana businesses to be more aggressive with their consumer education efforts, both through traditional channels and new technologies.

In response to recent events, marijuana vape manufacturers and dispensaries have taken measures that include:

- Posting signs in stores and training staff to help consumers understand why they should purchase vape products from licensed retailers rather than the illicit market—including assurance the products are tested, safe and free from harmful additives.
- Holding brand days, during which vaporizer company representatives meet directly with consumers to discuss their products and answer questions about the vaping health crisis.
- Offering apps that can be downloaded to smartphones for access to vaping stories, blog posts and research.
- Incorporating technologies that provide important information such as ingredients and lab results and allow consumers to verify the authenticity of products.

In-store options

Marijuana vape companies, retailers and other businesses have incorporated various measures to educate their consumers.

For example, Los Angeles-based Project Cannabis, a vertically integrated marijuana company, displays a letter on the counters in its four dispensaries that explains:

“California’s regulated cannabis and cannabis products are rigorously tested for residuals, toxins, solvents, pesticides and heavy metals above and beyond the testing required for any other manufactured product sold in California.

“While investigations are ongoing and a cause has not yet been identified, it is important to note that no cannabis vaping products purchased at licensed cannabis businesses have been linked to these illnesses in California.”

Project Cannabis Chief Operating Officer Cameron Smith said when the vaping issue surfaced, the company immediately instructed its vendors to forward testing results on all vape brands it carries in its stores.

The company also trained store associates to quiz customers about which brands they have purchased elsewhere and ask if they can inspect devices and packaging to identify illegal or counterfeit brands.

Other companies provide clients with product certifications and lab results.

Science Lessons

Consumers aren't the only audience for such education. In fact, many cannabis companies say that helping regulators understand the basic principles around the science of vaping is even more crucial.

Irvine, California-based Orchid Essentials built its education program around emissions testing on the smoke entering consumers' bodies, as one example. By providing regulators with a better understanding of what's happening, the industry hopes to move toward broader acceptance and better regulation.

To provide education, however, companies also must be educated. In response to the vaping crisis, San Diego cannabis cartridge company Platinum invited consumers to turn in vape cartridges that had been purchased from sources other than a legal cannabis dispensary in exchange for a legal and tested Platinum cartridge.

Platinum then sent 25 of the cartridges collected from customers to San Diego-based Infinite Chemical Analysis Labs to be analyzed for potency, pesticides, heavy metals and vitamin E acetate. Samples passed or failed based on the Bureau of Cannabis Control's regulations for all legal cannabis products sold in California.

The analyses found that 80% of the vapes were unfit for consumption and contained contaminants such as deadly pesticides, lead and vitamin E acetate.

Displaying Certifications

Depending on the state, a certificate of analysis (COA) that provides detailed lab results is available for every marijuana product, but sometimes consumers don't have access to it.

By providing ease of access through a smartphone app, vape companies can encourage consumers to read the COA and learn more about the cartridge, its ingredients and test results.

Another option is a QR code, which allows customers to use their smartphones to scan the code and pull up data on a vape product's state-approved lab results, dosage guidelines, ingredients, effects, user reviews and more.

Budtenders at marijuana retailers also can use the QR codes to provide more complete information to consumers in store.

Beyond alleviating safety concerns, consumers also receive the added benefit of tracking usage, including dosage, to help determine what works for them and what doesn't.



Courtesy of CannVerify

TECHNOLOGY TO FIGHT COUNTERFEITS

The deaths and serious illnesses from the vape crisis are stark confirmation that the illicit market remains one of the biggest crisis-causing forces for the legal cannabis industry and society at large.

As uncomfortable as it is to evoke the age-old adage that good criminals, illicit market counterfeiters included, are always a step ahead of those trying to beat them, executives need to stay on top of anti-counterfeiting technology.

Several cannabis companies have deployed high-tech solutions to fight fakes, including:

- Cartridges encrypted with microchips to verify product authenticity.
- Packaging with secure authentication technology.
- Unique and scannable graphic marks.
- Labels embedded with nearfield communications tags.
- Defense Chips

One concern with the vaping crisis came from knockoff products designed to look as if they came from licensed cannabis companies.

Airgraft, a Montreal-based vape technology manufacturer, developed vape pods outfitted with an encrypted chip that communicates with a vaping device, so only legal-market pods can be used with the product.

The chips are connected to a specific batch of vape oil, and when the user activates the device, Airgraft's servers confirm the oil is legitimate. A customer can use a smartphone app to access the pod's COA and evaluate the contents—including lab test results.

Kanvas, a vape solutions company headquartered in Orange County, California, produces a pod system that leverages anti-counterfeiting technology to authenticate every pod that connects with the battery. The system is equipped with Vapetelligence, a smart hardware and software platform that enables cannabis brands to define dosing, temperature, terpene accentuation and plume size that counterfeiters can't replicate.

Sealing Counterfeiters' Fate

Another company to watch is San Diego-based CannVerify, which provides serialized, tamper-proof seals so that manufacturers—makers of vaporizer cartridges, edibles, balms and other products, as well as growers who might need to package product—can attach them to the packaging and verify their authenticity. Each seal has a unique serial number tied to the company's blockchain-based online system.

Manufacturers can go into the CannVerify system and add product information. When consumers scan the QR code on the seal, they access a page that displays the product information provided by the manufacturer. The page also has an area for consumers to enter a verification code that can be obtained by scratching a section at the bottom of the seal. If the code doesn't match what's in the system, the product is likely a counterfeit.

Each seal can be used only once. Trying to remove the seal and put it on another package destroys the seal and leaves behind a security pattern.

On the back end, producers can use the system to perform basic analytics, such as seeing how many times a product has been scanned. That can give companies insight into which products are selling and which ones aren't.

Labels on the Frontline

California-based marijuana firm KushCo Holdings entered an exclusive distribution agreement with De La Rue, an England-headquartered provider of anti-counterfeiting and authentication solutions that prints more than 8 billion product authentication labels annually.

The partnership will provide companies with enhanced packaging with secure visual authentication technology using:

- 3D photopolymer images.
- Unique serialization.
- E-verification.
- Label tracking.
- Data-capturing capabilities.

RFID Replacements?

Many cannabis companies use QR codes for transparency purposes, providing ingredient information and product authentication. But QR code critics say they can be copied easily, defeating the security purpose.

Irvine, California-based Pearl CBD, which is owned by Origin Labs, created digital near-field communication (NFC) tags to be embedded in the labels. The patent-pending technology allows consumers to tap their mobile device to PearlCBD products for authenticity verification, batch-specific lab test results and access to educational content.

Another high-tech response comes from Denver-based Akerna, a regulatory compliance technology company in the cannabis space, and Boston-based Solo Sciences, which provides anti-counterfeiting technology. The two companies joined forces to provide marijuana companies with a graphically secure mark that consumers can scan with an app on their phones.

Solo Sciences' technology could replace the expensive seed-to-sale RFID tags cannabis companies are required to use.



LEGAL AID

Lawyers are critical to helping businesses meet compliance and legal standards that could help them avoid crises and for defending clients that find themselves threatened by lawsuits filed by injured consumers, aggrieved supply-chain partners or government interference. While this applies to all businesses, it is even more applicable for cannabis companies operating in complex markets.

Regulations and attorney guidelines in most states where cannabis is legal make it clear that providing legal advice to marijuana businesses is ethical and allowed—a significant shift from only a few years ago.

Dennis Rendleman, ethics counsel in the Chicago-based Center for Professional Responsibility at the American Bar Association and chief counsel to the Standing Committee on Ethics and Professional Responsibility, wrote last year:

A lawyer does not violate the Model Rules of Professional Conduct, particularly (ABA) Rules 1.2(d) and 8.4(c), by advising and/or representing a client in establishing, operating, or withdrawing from a medical or recreational business involving marijuana permitted by state law despite the existence of a conflict in laws between federal, state, and/or local jurisdictions. However, it is incumbent on the lawyer to fully inform the client of such conflicts and the potential risks involved. To do otherwise would deprive the client of legal advice and representation when it is most needed.

But how does a marijuana company identify an attorney who is both knowledgeable and courageous enough to stand up for clients in crisis situations against potentially powerful opponents?

One issue to ask about is attorney-client privilege. The law includes an exception in cases of crimes involving fraud, a category that has been used to target marijuana businesses.

That means marijuana business owners should ask the lawyers they interview what they would do if they were served with a subpoena to produce client records or called to testify.

Because regulations vary greatly from state to state or even from municipality to municipality, the right attorney should also have knowledge of the industry and the complex rules that exist for the market in which you operate. Don't be afraid to ask them about their familiarity with your markets.



VAPE PIVOTS

Cannabis companies in states where vaporizer cartridge sales were banned survived the vape crisis with pivots anchored in repurposing, consumer outreach and planning. Here are some of the maneuvers that cannabis executives executed, which can be applied to similar crisis situations.

Repurposing

When regulators banned vaping products, cannabis companies pivoted to the use of cannabis oil for other products such as edibles and tinctures.

By having a broader offering of stock-keeping units (SKUs), a business doesn't have to merely try to change the message around one product and have a "knee-jerk reaction," said AC Braddock, CEO of Eden Labs, an extraction company in Seattle.

Instead, provide customers another option that appeals to them for a similar reasons.

For example, vape products often appeal to people because they're discrete, easy to use and allow consumers to control their cannabis consumption.

Topicals, tinctures, edibles and lozenges can provide the same characteristics. They also can be flavored because they're not vaped, which works well if your business is sitting on a large quantity of flavorless distillate.

Consumer Focus and Outreach

Persuading consumers through education and marketing to try new products and paying attention to new customer demands in response to changes such as a vape cartridge ban are the next critical components in generating new revenue streams.

After the vape crisis, consumers increasingly want a greater variety of concentrate products, particularly goods that are made without solvents and/or are easy to use. It's a shift that's gaining speed and offers opportunities for extraction and manufacturing companies and retailers wanting to capitalize on it.

According to industry executives, the consumer impulses driving this trend are:

- Health concerns related to the vaping crisis.
- Ease of use and convenience.
- Potency.

A growing number of retailers offer an expanded catalog of concentrates beyond ubiquitous favorites such as budder, shatter and wax, which remain associated with dabbing, something some consumers find too inconvenient, too hardcore or both.

As a result, more cannabis companies have started producing solvent-free concentrates such as hash, kief and rosin.

The trend toward solvent-free concentrates has been a few years in the making, as consumers have become more sophisticated in their demands and cannabis companies have become more savvy in their manufacturing expertise. But the vaping health crisis accelerated this shift.

Shortly after Massachusetts Gov. Charles Baker introduced the statewide vape ban in late September, New England Treatment Access, a vertically integrated company owned by Atlanta-based Parallel, started offering kief priced at \$25 per gram and oil-infused pre-rolls at \$15 per 0.75-gram pre-roll.

Another vertically integrated company in Massachusetts, Sira Naturals, expanded its concentrate offerings soon after the vaping ban, selling rosin at \$70 per gram. Sira and other companies accompanied these roll-outs with discounts and specials, and informational and marketing tables on sales floors where retail or product reps can talk to customers about products.

Planning

When Massachusetts' governor lifted the vaping ban in December, some marijuana companies were able to get cartridges to labs or retail stores faster than others. How? By saving and properly storing cartridges that would be ready to go when the ban was lifted, as well as having a back stock of concentrate that could be used to fill vape cartridges.

"Since we had oil back stocked, we were able to start producing vape cartridges within an hour of the new regulations being released," said Nick Satmary, director of operations at Sanctuary Medicinals, a vertically integrated cannabis company in Massachusetts.



Photo by Mark Leffingwell

COVID-19 PIVOTS

When the coronavirus bore down on the United States, marijuana companies in many states were granted the right to continue operating as “essential businesses” along with hospitals, pharmacies and grocery stores. The businesses responded to the challenge with agility, composure, innovation, pluck and prudence that manifested itself in dozens of pivots and measures that positioned them to survive and occasionally thrive during the pandemic while showing themselves to be good corporate citizens.

Here are 10 of those pivots companies made, including examples from the front lines.

Increased sanitation: Marijuana businesses purchased sanitizer, wipes, plastic gloves and other sanitation supplies in bulk and wiped down surfaces multiple times daily.

Theory Wellness, which has three locations in Massachusetts, requires employees to wear gloves and is taking other unprecedented safety measures, including:

- A gloved doorman opens doors for customers.
- Several times per hour, employees wash surfaces with disinfectant.
- Budtenders are no longer allowed to offer customers sample smells of product.
- The number of people in the stores and waiting areas is limited.
- Customers are encouraged to preorder so they don't have to spend as much time in the store.

“We’re trying to minimize the touch points between patients and customers and employees,” said Thomas Winstanley, director of marketing at Theory Wellness.

Increased social distancing: Even before governors in states with legal cannabis markets allowed marijuana stores to stay open as essential businesses, many MJ retailers had already reached out to local health officials and consulted Centers for Disease Control guidelines about safety practices so they could protect customers and staff.

Along with increased sanitary practices, many stores, such as medical retailer Sira Naturals in Somerville, Massachusetts, capped at 15 the number of patients they could have on their sales floor, while others posted numerous signs reminding people in line to stay 6 feet apart.

Online ordering: To avert crowds, many firms encouraged online ordering. Some, including Dockside Cannabis in Seattle, offered a discount for orders placed online. Additionally, many cannabis retailers asked customers to wait in their cars and, when orders were ready, texted them.

When weak cell phone signals prevented some patients of CommCan in Millis, Massachusetts, from getting their texts, their head of IT set up a radio signal notification system. Patients would receive an order number, wait in their cars with their radios tuned to 90.1 FM. The station plays music that's interrupted only by budtenders calling out order numbers when product is ready to be picked up.

Curbside pickup: In some states, with the blessing of regulators, marijuana businesses went a step further with online ordering by offering curbside pickup so customers wouldn't even have to enter stores. Procedures including ID checks are strictly followed, as are safety measures such as social distancing and gloves for employees handling curbside pickups.

Drive-thrus: A smaller—but still significant—number of stores tried drive-thru options. Edgewater, Maryland-based Mana Supply Co., spent roughly \$100,000 converting a former bank drive-thru into a secure drive-thru for its dispensary.

Customers order ahead of time, and when they arrive to pick up their products, they press a button on a call box that enables them to show identification cards via video. Mana Supply installed high-resolution cameras inside and outside the enclosures.

After they're cleared, the customers drive into the bay, the high-speed garage door closes behind them and they push a button on a second call box to have their IDs checked again. The employee then puts the prefilled order into a drawer and slides it out.

Delivery: Many markets allowed stores to offer delivery or mandated that retailers convert to delivery only. That required many business owners to suddenly expand their delivery teams or build delivery squadrons from scratch.

At the same time, companies that are switching to delivery are putting into place unprecedented measures to ensure their drivers and customers stay healthy. These actions range from taking employees' temperatures to providing them with latex gloves and alcohol-based disinfectants.

In addition, Tempe, Arizona-based digital payment and compliance platform Alt Thirty Six is waiving all transaction fees for delivery purchases for new and existing merchants until April 20.

Postpone events or take them online: Scores of marijuana businesses canceled social events that they often rely on to generate customer interest, including many 4/20 celebrations.

But with the technology available, including streaming services and social media, other companies opted to have online events, including concerts.



Photo Courtesy of Harbor Hemp Company

Prioritize medical: Many recreational retailers and other marijuana companies made moves to ensure medical cannabis patients were taken care of before adult-use customers, reinforcing MJ's wellness image. Dispensaries MOCA Modern Cannabis in Illinois and New England Treatment Access in Massachusetts suspended recreational marijuana sales to focus on more vulnerable MMJ customers, according to the Chicago Tribune.

But many recreational advocates argue that consumers who didn't have medical cards still used cannabis for legitimate medical needs and therefore should be also declared essential.

Public service production: In effort to show they are good corporate citizens, several cannabis companies harnessed their manufacturing equipment to produce hand sanitizer to fight the coronavirus. Here are examples of cannabis businesses stepping up to help their communities during the coronavirus pandemic:

CannaCraft, a cannabis manufacturer in Santa Rosa, California, converted a portion of its production space to formulate and package individual bottles of sanitizer. Ingredients were already on hand, and the company had some spare hand-pump bottles that were no longer usable for cannabis products because of packaging-law changes. CannaCraft's in-house chemists developed a recipe, and the company was able to utilize similar techniques and processes for making topicals.

In Massachusetts, the Commonwealth Dispensary Association, which represents 36 marijuana companies statewide, said its members can now start producing hand sanitizer that will be donated to local hospitals.

Aloha Green Holdings in Honolulu, which owns cultivation, processing and retail facilities, is producing hand sanitizer for medical patients. The product is free to card-carrying medical marijuana patients at the company's two dispensaries. There is a limit of one 1.7-ounce bottle per patient until production ramps up.

Canadian cannabis producer Organigram announced on Twitter that the company is **donating 500 liters of ethanol** from its New Brunswick production facility to be repurposed into hand sanitizer for the local health-care community.

Compensation compassion: Many marijuana executives recognized the unprecedented toll that the pandemic was taking on people's livelihoods and responded by hiring laid-off workers who could help as delivery drivers or in other positions. At least a small number of executives, including those at Colorado-based LivWell Enlightened Health and A Therapeutic Alternative in Sacramento, California, took pay cuts.

REASSESS

When a crisis hits, your company must be able to respond quickly, but your leaders also need to have the presence of mind—usually supported by advanced planning or crisis-containment guidelines in your company's standard operating procedures—to take a step back and reassess the company, its operations and the situation.

It's not unlike the way a mechanic takes apart an engine and examines all the components to ensure they're in good shape and functioning well together. Organize a team to study processes, organization and execution. Even if you don't find anything wrong, this reassessment still helps you set policies and provides data you can present to customers to win back confidence that might have been lost during an unpleasant situation.

That process was key to Cresco Labs as the Chicago-based cannabis company navigated the vape crisis. The multistate operator created an internal, cross-functional product-quality task force to review everything from seed to sale. The process helped identify where the company was doing things correctly and how to communicate that information to customers.

Cresco used the same approach when the COVID-19 pandemic hit, this time consulting with a task force of outside health professionals and internal executives, many who had crisis experience.

"We had to bring in the right sort of consultants from the health-care industry that could help us think through this: infectious disease specialists that could not only give us their ideas on how this was going to develop but also protocols that needed to be in place (and) relationships at the CDC that could really help us formulate a real thorough strategic plan on how we were going to deal with this at an operational level, at a culture level, at an investor-relations level," Cresco CEO Charlie Bachtell said.

"The entire focus needs to be on controls."

Stepping back also helped Brandon Wiegand, regional general manager of The Source, a recreational and medical cannabis retailer in Nevada, respond strategically to the fast-evolving COVID-19 situation.

On a Wednesday in mid-March, the stores experienced a surge of customers anticipating a shutdown. Wiegand expected another surge on Thursday, but rather than exploiting the short-term opportunity, he switched his Las Vegas store to medical only. His reasoning? Safety, and a desire to reduce crowds at a time COVID-19 was already spreading through Las Vegas.

Hand in hand with that decision was Wiegand's eagerness to project an image as a responsible business that was heeding state government social-distancing advisories—putting safety ahead of profit—even before officials announced a lockdown. It also gave The Source's staff an opportunity to recuperate and Wiegand and his team to plan for an impending delivery-only model.

The store resumed recreational sales on Friday, but only online. The Source, which previously had partnered with a marijuana distributor for its delivery needs, started assembling its own fleet and by early the next week had more than 10 drivers ready to roll.



COMMUNICATIONS

Communication is critical during a crisis. Cannabis companies must employ strategies to keep clients and employees apprised of operational changes and safety procedures, among other things, depending on the specific crisis.

A successful crisis-communications strategy depends on:

- An effective organizational structure and plan in place on how to communicate with employees and consumers.
- A clear and unified message that addresses the issue directly.
- The ability to deploy tools such as social media to reach the right people.
- Following up with and continuing to educate consumers after a crisis.

The COVID-19 pandemic is a perfect example of how not having a plan can effectively immobilize your operations. Rules and regulations are changing rapidly, and it's your job to understand and communicate those changes to your customers and employees.

Organization

In recent months, Cresco Labs in Chicago made several key hires who had experienced crises with other large companies in other industries. Those individuals were able to apply that experience to a response to the recent vape and COVID-19 crises.

The company also went through an organizational transition from a startup-minded company that was very centralized to a more mature but growing company with a decentralized management structure and stronger leadership at the state level. This allowed the local organizations to be more nimble in their changing environments.

Uniform and Effective Messaging

Even while Cresco decentralizing, it was focused on having a consistent message throughout the entire organization. During the week of March 20, as the coronavirus situation was really ramping up in Illinois and elsewhere, the CEO sent companywide emails. That helped set Cresco's tone.

Going forward, the messaging will come from the state-level leadership within the company.

An effective message has two key elements, according to Owen Murphy, a Philadelphia-based public relations specialist with experience in crisis communications. The message must:

- Validate concerns.
- Show actions.

“Validating concern is to come across as human, to acknowledge that whatever the regrettable action or circumstance was, it probably should not have happened,” Murphy said. That’s true even if the circumstances that led to the undesirable situation were outside one’s control.

“You’re not the victim of circumstances,” Murphy said. “You’re the victim of your own lack of preparation, training, quality control, etc.”

After the validation, a company must show action, it must clearly demonstrate how it plans to correct the situation or adapt to a new environment to continue providing for its community.

Social Media and Other Tools

While Facebook has discriminated against marijuana companies in the past, the social media giant, its affiliate Instagram, Twitter and other social media tools seem to have allowed—at least anecdotally—marijuana companies to use the platforms during the coronavirus outbreak.

Cannabis retailers in legal markets routinely instruct customers to follow their social accounts and check their websites for updates about new hours, curbside pickup, delivery and other coronavirus-induced changes.

To smooth the adjustment to curbside pickup and help avoid crowds, lines and similar situations that make social distancing hard to practice, some retailers, such as Diego Pellicer’s Denver stores, have started using text messaging to let curbside customers know when their orders are ready. That way, instead of waiting in a line, customers can sit in their cars until their products are ready.

The Commonwealth Cannabis Company, a recreational and medical store in Millis, Massachusetts, tried texts as well to inform curbside customers, but weak cell signals scuttled the idea. Instead, the store’s IT chief, MIT graduate Mark Abbate, created and deployed a low-frequency FM transmitter to call customers into the dispensary. Customers now take a numbered ticket when they arrive and then wait in their cars with the radio tuned to 90.1 FM, where the transmitter broadcasts music until it’s interrupted by a store clerk calling the latest number.

Follow-Up

While COVID-19 has highlighted the need to pivot and innovate, the vape crisis highlighted the need for marijuana companies to maintain communications with customers and clients after a crisis has subsided.

For example, the situation highlighted why the illicit market is dangerous and why vape consumers should purchase cannabis only from the legal market. While many companies, both voluntarily and by state mandates, include helpful product information and certifications about vape products for customers, less effort goes into dissuading the public from buying from the illicit market.

Communication doesn’t stop when the crisis ends. The messaging afterward must continue to show action to demonstrate why your company should continue to have the trust of consumers.

GOVERNMENT AND REGULATOR RELATIONS

The vape crisis and COVID-19 pandemic have reinforced the need for cannabis companies to have good relationships with regulators and government officials, albeit in two different ways. The vape crisis demonstrated what happens when there is poor communication between cannabis industry officials and regulators, while the coronavirus situation showed what's to be gained through cooperation between business and government.

Case No. 1: The Vape Crisis

Once vaporizers were identified as a potential source for the severe lung disease sweeping across the United States, researchers determined that vitamin E acetate was the primary culprit. In addition, officials determined that most—if not all—of the vape products with vitamin E acetate were coming from the illicit market.

Despite this evidence, regulators in several states, including Massachusetts and Michigan, banned stores from selling legal vapes in several states. As a result, many consumers returned to the illicit market to get their vape cartridges.

For their part, legal cannabis businesses seemed to underestimate their growing legitimacy and the power of their knowledge—namely that their products were safe and they should therefore be left to sell those products so customers would have an alternative to the illicit market.

In Massachusetts, for example, cannabis businesses didn't pressure the state health department to release complete information about the source of THC-vape-related illnesses. The message sent by the agency was that six people stricken with the vape illness had vaped products from legal stores. While true, those individuals had also vaped illicit THC products—something health officials later admitted under pressure from the state's Cannabis Control Commission.

By not being part of the solution through sharing their knowledge and experience with regulators, cannabis companies contributed to the problem by allowing the dissemination of misinformation.

Case No. 2: Cooperation in the Face of COVID-19

When Nevada Gov. Steven Sisolak asked nonessential businesses to close in an effort to reduce exposure to the coronavirus, a surge of customers descended on the two stores owned by The Source.

Rather than keep the Las Vegas store open to recreational customers to collect on the quick one-day windfall, the store converted to medical-only sales, partly for safety and social-distancing reasons but also to be a good business citizen.

When Sisolak later announced that marijuana stores would be able to service customers only through delivery, the company's regional general manager, Brandon Wiegand, asked existing employees if they'd be willing to become drivers.

Wiegand sent delivery-permit applications to Nevada regulators on Friday and Saturday, expecting to hear back Monday. But regulators approved most of the applications by Sunday.

While the expediency can't definitively be attributed to The Source's willingness to comply with the regulations and good citizenship, regulators likely took notice and wanted to respond in kind.



Building Relationships

Teamwork in bad times starts with building relationships in good times.

Cannabis companies need to be a part of the conversation around developing regulations and educating the rulemakers. Having such a relationship in place before a crisis strikes means your voice will be trusted when trouble arises.

For example, Cresco Labs in Chicago has been active with Illinois regulators from the local level all the way up to the governor's office. This allowed the company to be listened to when it presented a plan for how it would operate as an essential business and support the mandates for social distancing being introduced as a response to the spread of COVID-19.

"Definitely we have been operating arm in arm with our local governments to make sure that they understand we're going to do this the right way," CEO Charlie Bachtell said. "We're going to take all of the guidance from the (Centers for Disease Control) and other health-care authorities to make sure that we're providing a safe working environment so we can continue to produce these products."

"When you're a responsible, rational, reasonable operator and you engage at that level with your regulator, with your governing administration, and when you in times of difficulty can come to them with a reasonable, rational, logical plan ... they're going to say, 'Thank you very much. Those are great ideas. Let's do them.'"

FINANCE AND ACCOUNTING

Marijuana businesses face tough financial decisions in crisis times. Cash is king in good times, and it's even more important when times are tight.

The moves you make now won't just help you during the crisis, including the current coronavirus-induced economic crisis, but they will help you come out the other side stronger and more prepared.

Here are some tips for how to keep your financial house in order.

Understand your cash flow

How much money do you need to survive? That is the first question that needs to be answered, according to financial experts consulted by *Marijuana Business Daily*.

"Businesses need to take a hard look at business plans in conjunction with financial data and current operations to assess short-term liquidity needs, which will be the best guide to navigating through this volatile environment," said Francisco Colon, a partner with California-based accounting firm MGO.

One way to do this is to create a cash-flow budget to project and monitor your cash receipts and disbursements.

"(Doing this) weekly will provide visibility and the information needed to make cash-management decisions," said Seth Freeman, San Francisco-based senior managing director of GlassRatner, a national specialized consulting firm focused on restructuring and distressed situations.

Optimize costs

If you lack funds to execute your strategy, the logical thing to do is cut costs. But this move must be done strategically in order to minimize the impact on revenue generation, Colon said.

Begin by figuring out how to identify removable costs, such as reducing travel, implementing hiring freezes and limiting discretionary spending.

"If there is one silver lining to this pandemic, it is that the virus is already cutting (these) naturally," Colon said.

For example, more employees are working from home, minimizing much of the travel and discretionary spending.

Those decisions are the easy ones. Not all of them will be.

"Make tough decisions quickly," Freeman advises. "No manager wants to furlough or lay off employees, cancel services or reduce expenses that had seemed essential prior to the crisis."

Doing so now will give your company more options to hit the ground running when the crisis passes.

Optimize revenue

Even while market demand is in flux, there are opportunities to drive revenue in new ways. “The best entrepreneurs are those that think outside the box and support their innovation with financial data,” Colon said.

Start with your price strategy: Do your prices align with actual market demand? Then turn to your product strategy. “More products do not mean more revenues,” he said.

Analyze the data you have to answer these questions:

- Which of your products are in the highest demand?
- Which provide you with the best margins?
- Are there cross-selling/upselling opportunities you could be employing to generate more profit from a single customer?
- Where are you seeing waste?

Communicate with all your partners—and keep communicating

You have many partners, from your vendors to your landlord to your customers. In times of crisis, they’re stressed too, so make sure you’re communicating changes and challenges to them.

“Proactive communication demonstrates you recognize the problems and are taking control of the crisis,” Freeman said. This helps build trust in times of trouble.

Colon and Freeman suggest:

- Expedite receivables and ensure quick payments to optimize cash flow from accounts.
- Create a detailed invoicing process that is customer-centric.
- Quickly advise any partners of delays or disruptions. This allows them to optimize and adapt, as well, and can help prevent future disruptions.
- Use your existing communication tools to stay in front of your customers. Let them know how you plan to continue meeting their needs.
- Consider personal calls to key customers. “(This) will be remembered long after the crisis is over,” Freeman said.
- Communication isn’t a one-way street, though. Make sure you’re listening to your partners and consider seeking input from outside advisers.

Don’t forget the taxes

“Careful tax planning at this stage, informed by a deep understanding of recent tax code changes, can have a major impact on immediate cash flow and long-term tax burden,” Colon said.

Tax relief programs are being introduced at all levels of government, from federal to local. But not all of these programs will be available to cannabis companies.

Make sure you understand what does and doesn’t apply to your business and consider consulting tax experts to keep you on the right side of the tax code during a crisis.

SUPPLY CHAIN

While the primary focus around the vape crisis and COVID-19 has been the health impact—and rightly so—the effect on businesses extends far beyond the human element.

For example, a large swath of the cannabis industry supply chain depends on vendors in China, where trade has been severely disrupted by closures related to the coronavirus. Among the companies most affected are those from the vape hardware, packaging, greenhouse and cultivation sectors. Marijuana companies that have survived this latest crisis have done so with planning and by pivoting to survive disruptions.

Securing Your Vape Supply Chain

Industry analysts estimate 90%-95% of all components that comprise a cannabis vaporizer are manufactured in Shenzhen, China. For the remaining 5%-10% of supplies that might be sourced domestically, U.S. manufacturers have been unable to serve the cannabis market.

So when the coronavirus outbreak began in Wuhan, China, in December 2019—eventually causing factories to halt production of vape hardware—cannabis companies had few alternatives as they waited for factories to resume operations.

Today, some of the factories are back in operation, alleviating some of the supply-chain disruption, but they aren't operating at full capacity.

The cannabis companies most vulnerable to this supply disruption, according to Arnaud Dumas de Rauily, founder and CEO of New York-based cannabis vape hardware producer The Blinc Group, are those that:

- Own a single Chinese hardware-production factory.
- Partner with only one factory.

"If they don't have redundancies built in, they're not able to pivot," he said.

Diversification is critical to ensuring continuous supplies, regardless of your industry. But a heavy reliance on one very specific region leaves the cannabis sector especially vulnerable.

U.S. cannabis companies seeking domestic providers will remain hard-pressed to find suitable options, as the mom-and-pop hardware companies aren't scalable and struggle to keep pace with the innovation and automation occurring in China.

An added factor hamstringing cannabis companies is the lack of economy of scale in purchasing orders. Most cannabis companies don't have the capital to purchase millions of units to ride out supply disruptions. And having that money wrapped up in inventory prevents the company from being able to invest in other necessary response mechanisms in times of crisis.

Still, there are steps a cannabis company can take to manage supply chains, said Beau Whitney, a Portland, Oregon-based cannabis consultant and founder of Whitney Economics, including:

- Set up systems to monitor inventory and know when to order materials.
- Ensure you have an alternate supplier in place for all critical inputs.
- Establish audit rights to evaluate the financial viability of any manufacturing partner.

Knowing the lead time for necessary materials should help to manage a company's cash flow, Whitney said. In the event something goes wrong and a company can't order enough to keep the factory solvent, both parties are out of luck.

Businesses need to plan ahead for what might happen so they're ready to respond when something does happen.

For example, if a retailer is expecting a vape company's products, but they're delayed, have a plan to make it up to the store owner. This could mean cutting a deal on prices when the supply returns. This willingness to work toward a solution strengthens the relationship.

Packaging Pivots

Pivoting has proved easier in packaging. With factories in China shut down to prevent the spread of the coronavirus, some marijuana companies have turned to manufacturers in the United States, India and Mexico.

KushCo Holdings, which provides ancillary products and services to the state-legal cannabis and CBD industry, is exploring packaging options in the United States, Taiwan and India. KushCo started looking beyond China when President Donald Trump imposed tariffs on Chinese goods, said Arun Kurichety, the executive vice president and general counsel of the Cypress, California-based company.

Manufacturing facilities in eastern China have shut down, but several in western China have been allowed to reopen with proper certification. Still, those operations are working with about half the employees they typically have.

Some cannabis companies are feeling the impact of the coronavirus, while others stocked up on packaging in anticipation of the Chinese New Year, during which many factories shut down to celebrate.

Preparation for the anticipated disruption might have bought those companies some time, but uncertainty over how long the coronavirus will continue to spread has many packaging companies looking for solutions in other markets.

Apply that preparation mentality to your everyday operations. Develop relationships with other vendors in different markets so you can pivot when something does go awry. A natural disaster can wipe out production or disrupt the movement of goods relatively easily, and companies without a backup might find themselves at the whims of Mother Nature.

Cross-Training and Collaboration

Planning is key to averting supply-chain woes, regardless of the cause.

For example, Bedrocan, a Dutch medical cannabis supplier, maintains several months of supply for critical inventory, according to company spokesman Ole Heil.

It also helps to be a large vertically integrated operator, if you know how to maximize efficiencies.

One adjustment Cresco Labs is ready to make if sickness knocks out a significant number of workers is SKU rationalization. For example, if a business typically makes gummies in several flavors, it could consider reducing the number of flavors and increasing the size of the batches. That small move translates into significant labor reductions. You can let a gummy-making machine run longer without personnel on hand to change flavors, put in new molds, clean the machine after each flavor run, and so on.

Cresco also cross-trains its workers so different employees can help in different areas of the company when needed.