

SUPPLY CHAIN SYMBIOSIS: WHY THE BEVERAGE INDUSTRY AND BLOCKCHAIN ARE THE MISSING LINK IN THE CANNABIS REVOLUTION

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The cultural tide is shifting toward full legalization in countries like Canada and the United States, positioning cannabis at the forefront of a new wave of supply chain logistics innovation. After regulatory issues, distribution is the number one challenge for cannabis companies - but it is a core competency for the beverage industry, presenting a logical and profitable entry point into cannabis for the food and beverage industry.

The legalization push for cannabis also coincides at the precise time of the maturation and mainstream adoption of blockchain technology, which at a fundamental technical level is perfectly positioned to streamline the cannabis supply chain, while also solving a myriad of regulatory headaches for the cannabis industry.

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QUESTIONS?

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THE ANSWERS YOU NEED

Produced in partnership between Beverage Marketing Corporation and emerging trends innovation experts, HVCK, this new report dives into the details of how the cannabis industry is tackling its regulatory and distribution challenges, what role technology and possibly blockchain will play in that process, and how food and beverage companies can stake their claim in the cannabis industry by leveraging their supply chain expertise. Cannabis is poised to become a major industry, but supply chain regulations differ greatly from state to state. After regulatory issues, distribution is the number one challenge for cannabis companies – but it is a core competency for the food and beverage industry, presenting a logical and profitable entry point into cannabis for food and beverage companies.

THIS REPORT FEATURES

The report includes:

- An historical timeline of supply chain-related regulations;
- A look at state-specific histories and regulations;
- A comparative breakdown of the food and beverage industry supply chain versus the cannabis supply chain;
- A discussion of cannabis as a monopoly business;
- A glimpse at the importance of vertical integration;
- An analysis of distributors and vertically integrated companies to watch;
- An exploration of cannabis supply chain challenges;
- A discussion of opportunities for food and beverage and cannabis supply chain collaboration;
- A look at seed-to-sale regulation and its impact on supply chain;
- An overview of supply chain technology currently in-use and emerging technology;
- An analysis of blockchain as a way to handle supply chain regulation;
- Interviews with leading cannabis industry experts and entrepreneurs;
- Recommendations for the food and beverage industry;
- A 10-year outlook of cannabis supply chain; and
- Originally designed infographics.

SUPPLY CHAIN SYMBIOSIS

Why the Beverage Industry and Blockchain
Are the Missing Link in the Cannabis Revolution

APRIL 2018

A
BEVERAGE
MARKETING
CORPORATION + HVCK
INNOVATION REPORT

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ABSTRACT

Cannabis is projected to be an over \$5 billion industry by 2019 in California alone; the beer industry in California was \$5 billion in 2017. The magnitude of the shift that is already underway will radically transform what is consumed and how — as well as who profits from it. And supply chain logistics are at its core. (Source: BDS Analytics, IBIS World)

Cannabis supply chain regulations differ greatly from state to state, but one thing is certain: the companies that control the supply chain control the industry. After regulatory issues, distribution is the number one challenge for cannabis companies — but it is a core competency for the food and beverage industry, presenting a logical and profitable entry point into cannabis for food and beverage companies.

This new report dives into the details of how the cannabis industry is tackling its regulatory and distribution challenges, what role technology and possibly blockchain will play in that process, and how food and beverage companies can stake their claim in the cannabis industry by leveraging their supply chain expertise.



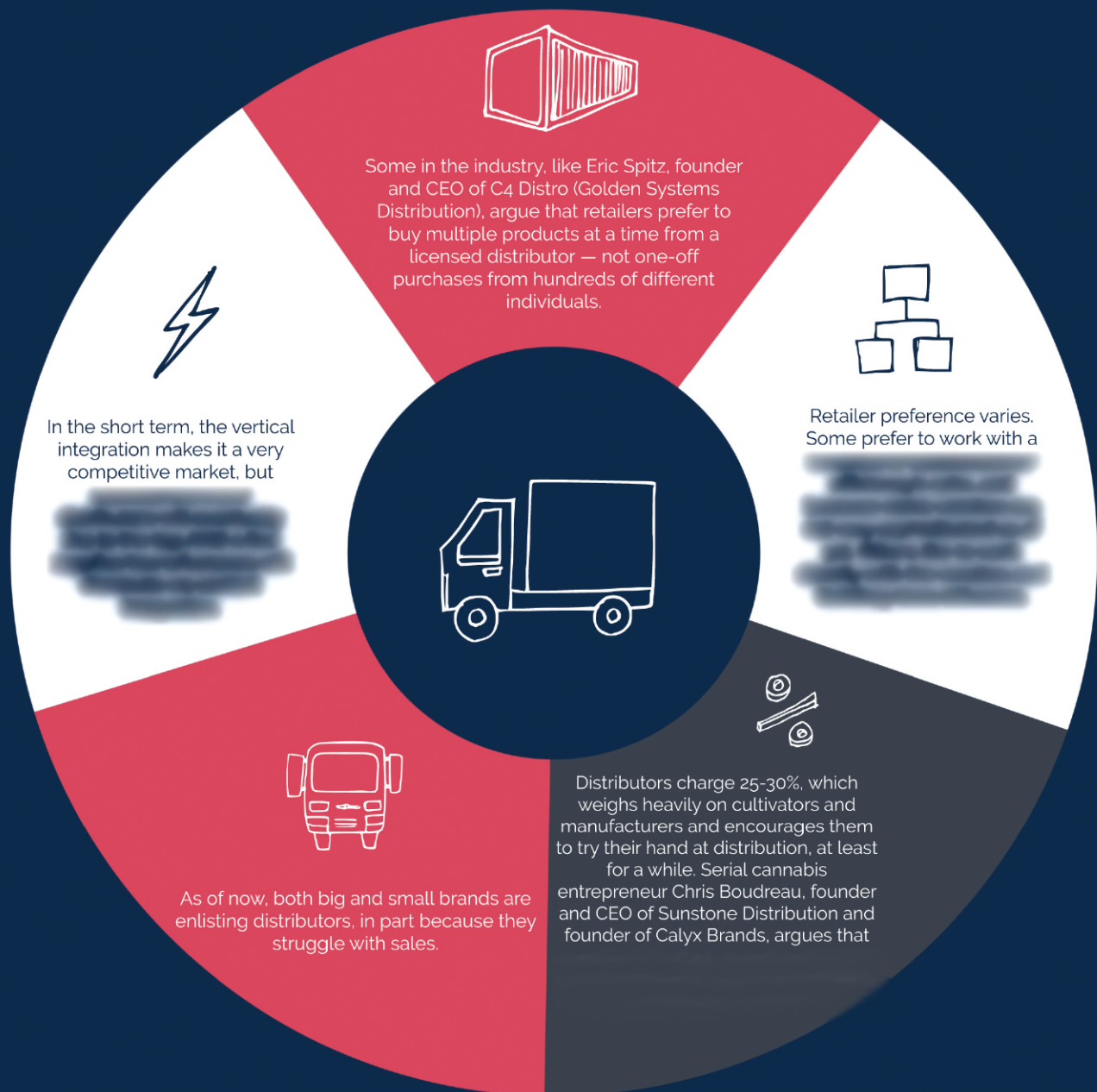
The report includes:

- Originally designed infographics
- Historical timeline of supply chain-related regulations
- State-specific histories and regulations
- Comparative breakdown of the food and beverage industry supply chain versus the cannabis supply chain
- Cannabis as a monopoly business
- Importance of vertical integration
- Distributors and vertically integrated companies to watch
- Cannabis supply chain challenges
- Opportunities for food and beverage + cannabis supply chain collaboration
- Seed-to-sale regulation and its impact on supply chain
- Supply chain technology currently in-use and emerging technology
- Analyzing blockchain as a better way to handle supply chain regulation
- Impact of blockchain on consumer product safety transparency and traceability
- Exploration of blockchain efforts in the food and beverage space
- Key takeaways and unique insights
- Recommendations for the food and beverage industry
- A 10-year outlook of cannabis supply chain

Additionally, this report includes 6 exclusive, in-depth interviews with leading cannabis industry experts and entrepreneurs who promise to be major players in the coming years: distributors, security experts, software developers, and federal regulators.

VERTICALLY INTEGRATED SUPPLIERS/MANUFACTURERS VS. INDEPENDENT DISTRIBUTORS

WHO WILL BE THE BIG WINNER?





The cannabis industry will face many of the same supply chain challenges as industries like food and beverage. Fortunately, a lot of best practices will also crossover, opening the door for the beverage industry to stake a claim in the cannabis industry and redefine its own future and legacy. Will Jasper of MedMen speaks to the

importance of inter-industry exchange as the cannabis industry matures: "We're talking about an industry that is still in its infancy, while it's been around for decades on the black market, the legal market is fairly new and has a long way to go before maturity. Therefore, standard business practices, such as those used by Fortune 500

retailers, manufacturers, and food and beverage companies are being integrated into the industry by companies like MedMen and other large players. These companies are hiring people from analogous industries to bring those best practices to this newly found legal landscape."

While he acknowledges that most cannabis companies don't yet have the sophistication to currently integrate these practices, Jasper believes the following supply chain practices will be key in maturing

- Sharing B2B forecasts between retailers and manufacturers or retailers and distributors
- Creating accountability through vendor contracts
- Using ISO quality standards in manufacturing
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]



Jasper adds: "Other than the sheer growing pains of a new industry, you will see a lot of the same issues seen by other supply chains: natural disasters taking out crops (fires in California), taxes at multiple touch-points in the chain which drive up costs, theft, supply shortages driving prices up (as seen in Nevada), surplus of supply driving prices down (as seen in Colorado)."



Many in the cannabis industry believe that modeling the emerging cannabis industry on the beverage alcohol industry, specifically with regard to supply chain practices, is its best bet for success. This uniquely positions beverage industry companies and executives to leverage their expertise, stake a claim, and make their mark in this new-but-similar industry.

While all of the above cannabis supply chain challenges are areas in which the food and beverage industry have expertise and could enter and contribute to the cannabis industry, a few additional challenges are particularly well-suited for innovative food and beverage companies

RETAIL

Dispensaries currently present a limited, antiquated cannabis experience, and one that largely still caters to the stereotypical male “pot head” consumer. Cannabis retail is ripe for outside assistance. Justin Singer suggests a type of “Retail 101” course for dispensaries:



“Most of them have little-to-no understanding of basic retail best practices around pricing, merchandising, customer development, and inventory, and they're too proud to listen to their vendors (like us). If a distributor were to take on the role of independent educator, it would really help expand the industry in the mass-market direction they're most likely to be interested in serving. If all this industry ends up being a market for shatter and wax, it's not going to be interesting to beverage folks, and it has the potential to do so much more if only someone can get these dispensary owners to reframe their thinking and apply basic retail principles to their business. That requires education, and I can't think of a better way for beverage companies to expose themselves to the reality of the industry, shape its future, and avoid regulatory issues than to act as educators.”

Many brands and companies outside of cannabis are hesitant to get involved in the industry due to murky and conflicting state versus federal regulations. Education and consulting for cannabis brands is one way industries like food and beverage can establish their value and develop relationships without ever touching product.

SALES AND MARKETING

Brand building is a specialty of the food and beverage industry, but it's an area that cannabis has little experience in and that lack of sophistication shows. Fortunately, the cannabis market is moving away from flower and deeper into beverages, edibles, and other products that benefit from strong branding. Some cannabis distributors are already trying to build up this side of the market. “In the liquor industry, it's all about the brand. You can have a great spirit, but if you don't brand it properly, you don't sell it. These drivers/salespeople are

delivering alcohol to the accounts, and they introduce them to new brands. That is a model we're starting to see in cannabis. We deliver product to a dispensary, and offer a 'gift pack' from one of our clients with some sample products. It's a way of acquiring customers for a new brand,” explains Terry Blevins of Armaplex. Food and beverage distributors are already well-versed in these sales tactics and can provide a competitive advantage to cannabis brands.



A PERFECT FIT

Blockchain technology is seemingly a tailor made fit for the challenges facing not just the nascent cannabis industry, but also the new demands being thrust upon food and beverage supply chain participants. Dr. Darin Detwiler, who is a broadly-respected voice in food safety regulation, adds, "There's not a longstanding tradition or foundation that has to be changed – as there is in the food industry, that doesn't want to change. Cannabis is in its infancy at this scale, and it has the ability to really define itself in this space."

For purposes of comparison, let's take a look at what an ideal cannabis regulatory compliance system should look like:

A GOOD CANNABIS REGULATORY TRACKING SYSTEM

	BLOCKCHAIN	LEGACY
MAINTAIN A PUBLICLY READABLE/ AUDITABLE RECORD OF ALL TRANSACTIONS	[Blurred text]	[Blurred text]
BE TOTALLY SECURE AND UNALTERABLE	[Blurred text]	[Blurred text]
POSITIVELY IDENTIFY EACH PERSON INTERACTING WITH THE SYSTEM	[Blurred text]	[Blurred text]
BE ACCESSIBLE TO MULTIPLE PARTIES	[Blurred text]	[Blurred text]
SUPPORT THE PROCESS FROM SEED-TO-SALE	[Blurred text]	[Blurred text]
MUST BE REAL-TIME IN TERMS OF SPEED	[Blurred text]	[Blurred text]

SPECIFIC CHALLENGES/OPPORTUNITIES IN THE CANNABIS SUPPLY CHAIN



GROWING STAGES

Particularly susceptible to food fraud, lack of purity, diluted product, farming practices (organic, non-GMO, etc), growing conditions, as well as labor involved (especially with growing food)



DISTRIBUTOR

Proper storage (potential to affect product), inventory control (keeping track of all stock), proper transport (making sure items get safely to their destination. Potential for robbery, etc. as marijuana is highly valuable)



MANUFACTURER

Improper labeling, handling, storage



DISPENSARY

Here it could be possible to misrepresent the product, especially if anyone along the supply chain has compromised the product in any way. And the retailer will be the first person the consumer goes back to if anything goes wrong



SUMMARY OF BLOCKCHAIN BENEFITS

DECENTRALIZATION

It's harder to hack

FASTER/CHEAPER PROCESSING

Doesn't pass through a bank

OPEN SOURCE

Anyone can create one

TRUST

Can trace where everything comes from;
safeguards against fake products/makes
transparency of origins and ingredients
imperative



Will Jasper

Director of Supply Chain at MedMen

Will Jasper is director of supply chain at MedMen, one of the leading cannabis companies in the country, and one of the companies that many industry insiders believe is the company to beat.

Q: What are some of the challenges you currently see or foresee in the cannabis supply chain?

Where to begin... We're talking about an industry that is still in its infancy, while it's been around for decades on the black market, the legal market is fairly new and has a long way to go before maturity. Therefore, standard business practices, such as those used by Fortune 500 retailers, manufacturers, and food and beverage companies are being integrated into the industry by companies like MedMen and other large players. These companies are hiring people from analogous industries to bring those best practices to this newly found legal landscape.

Some of the key practices I'm referring to are sharing B2B forecasts (between retailers and manufacturers or retailers and distributors, etc.), creating accountability through vendor contracts, using ISO quality standards in manufacturing, extraction and cultivation, use of ERP and BI to make intelligent business decisions, sharing information cross functionally, such as demand planning and retail marketing collaborating for promotions and holiday business, the list goes on. The truth is, a lot of cannabis companies are not large enough or are too new to the market to be at this level of business maturity. However, as these



types of practices become normalized, you will see companies working their hardest to optimize their workflows and get in line with the rest of the market.

Other than the sheer growing pains of a new industry, you will see a lot of the same issues seen by other supply chains: natural disasters taking out crops (fires in California), taxes at multiple touch-points in the chain which drive up costs, shrink or theft, supply shortages driving prices up (as seen in Nevada), surplus of supply driving prices down (as seen in Colorado).

As each state's regulations on cannabis differ, a company must alter the way they operate within each state they do business. This includes how lot numbers are tracked, the sizes of the packages cannabis can be formed into for wholesale distribution, the taxes that are incurred, or the time at which a state mandated product should be lab tested. All of these differences play a critical role in how a company's systems should be set up and how the operations are run.