

State of the Cannabis Industry

Navigating Growth Through Innovation in 2024



Foreward

The cannabis industry is wildly dynamic. As more states move towards legalization and acceptance, cannabis cultivators and distributors are experiencing an era of growth and opportunity. But this expansion comes with its own unique challenges. The industry is navigating complex regulatory landscapes, shifting consumer preferences, and intense competition.

In this state of the industry report, we explore the core aspects of how cannabis businesses are not just surviving, but thriving, through the strategic adoption of technology. This report focuses on key areas such as operational management, financial handling, and business application solutions, providing a comprehensive view of the current status and future potential of the cannabis industry.

From sophisticated seed-to-sale tracking systems to advanced cultivation technologies—these tools are enhancing efficiency, ensuring compliance with regulatory requirements, and driving profitability. Artificial intelligence and machine learning are also being leveraged for predictive analytics, optimizing harvests, and improving product quality. Additionally, blockchain technology is emerging as a powerful asset for supply chain management and transparency. We worked with a third-party organization to conduct a survey of today's leading cannabis and hemp cultivators, processors, and distributors.

Our goal was to gain a better understanding of where their business is today, and what their plans are for the future.

As the Director for Horticulture and Cannabis at Velosio, I focus solely on helping these organizations find a competitive advantage through technology solutions. Since 2015, I have met with hundreds of cannabis businesses, both single state and multi-state operators, to understand their business requirements and help determine the right software solution for their individual needs and business processes.

As you read through this report, you'll find information from the study coupled with my insights and observations. I encourage you to reach out to me and let me know if this stacks up with where your organization is today and how you think technology could impact the industry in the future.



Sara Silver

*Director for Horticulture and Cannabis
Velosio*

WHAT AWAITS YOU IN THIS REPORT

The report explored a survey involving 200 professionals within the cannabis industry to unravel:

- Technological landscape and priorities within the cannabis industry
- Challenges and inefficiencies faced by cannabis companies
- Strategic expansion plans and geographic preferences for the next three years

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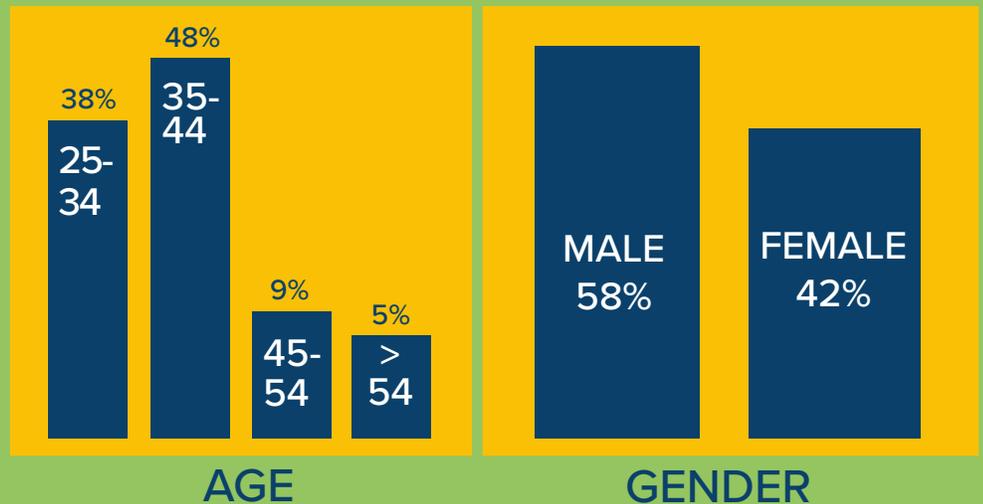
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Executive Summary

The cannabis cultivation and processing industry in the United States is experiencing robust growth, driven by the expansion of medical and recreational cannabis programs across 37 states. However, this promising landscape is marked by unique challenges including federal classification hurdles, regulatory complexities across diverse state frameworks, and market saturation in certain states.

In response to these challenges, businesses within the cannabis sector are strategically embracing the latest advancements in technology. The industry 4.0 revolution, characterized by innovations such as artificial intelligence (AI), robotics, and automation, is reshaping the industry's operational landscape. Key survey insights underscore the pivotal role of technology in driving efficiency, reducing costs, and ensuring compliance.

Automation for Operational Efficiency: Automation emerges as a central theme, offering solutions for streamlining cultivation and processing operations. Survey data reveals a strong inclination among respondents (80.50%) toward leveraging technology to streamline processes and reduce costs. Automation, particularly in tasks like plant trimming and packaging, not only enhances efficiency but also allows a redirection of human resources to more specialized roles.

Regulatory Compliance and Technology Integration: The survey illuminates the challenges of navigating complex regulatory environments, with 60.50% citing regulatory compliance and changing legal requirements as significant obstacles. The strategic integration of technology addresses this concern, ensuring accuracy and consistency in product packaging and labeling, aligning with regulatory standards.

Geographic Expansion: The survey outlines strategic expansion plans, with California, New York, and Florida topping the list of targeted states. This reflects a balanced approach, targeting both established and emerging markets to leverage the industry's dynamic growth patterns.

Looking Ahead to 2025: The cannabis industry is poised for continued evolution, guided by technological innovation. A forward-looking perspective is critical as businesses navigate challenges, capitalize on emerging trends, and shape a successful future within this rapidly evolving landscape.

Anticipated projections indicate that cannabis sales are expected to escalate to **\$52.6 billion** by the year 2026.

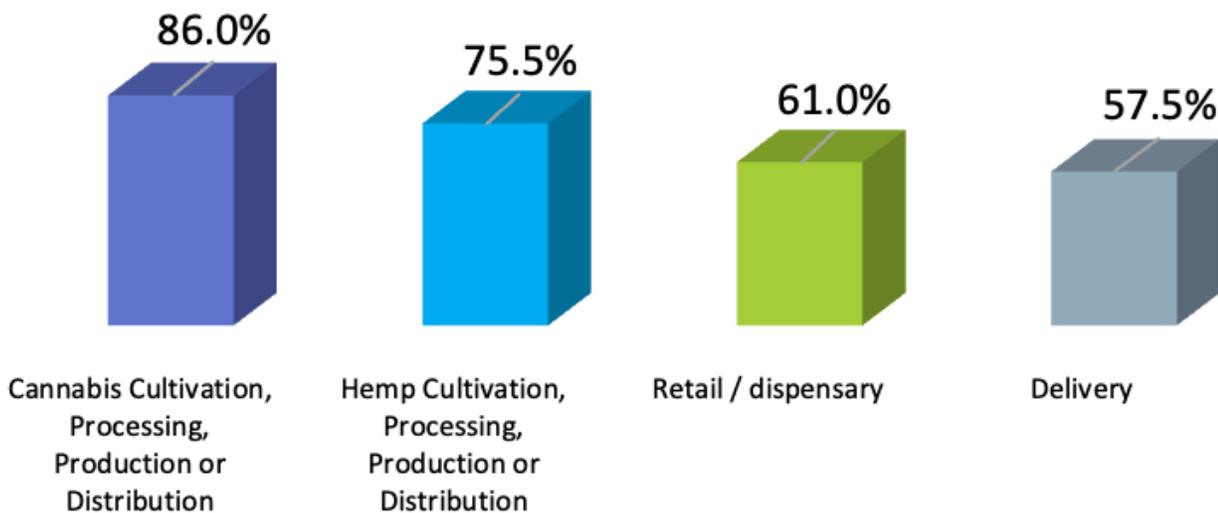


Whitney Economics report projects that there will be more legal cannabis than illicit cannabis in the U.S. by 2026.

Chapter 1

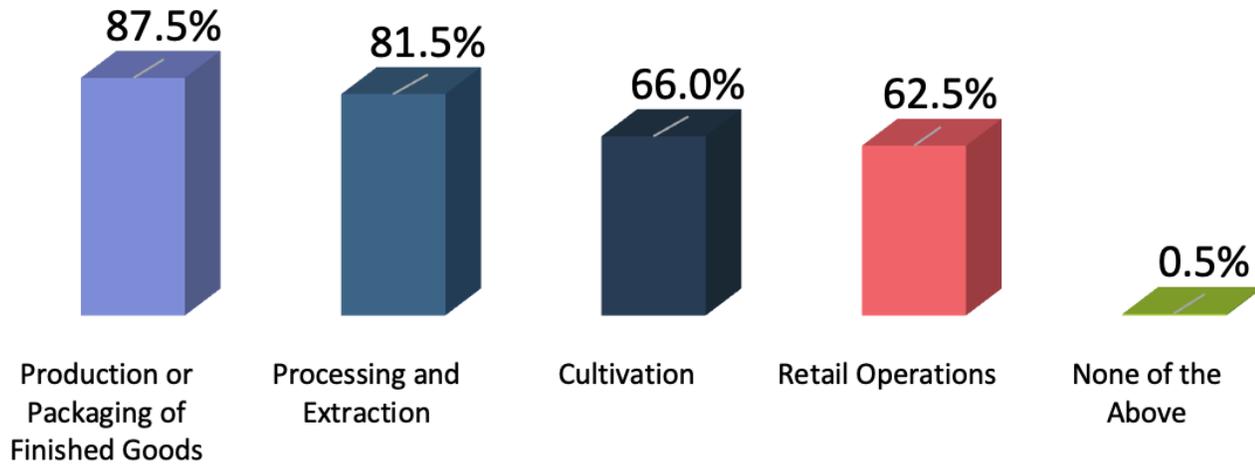
Overview of the Participating Companies

The cannabis industry is a diverse and evolving industry that encompasses everything from growing and processing to manufacturing, distribution, and sales. Survey respondents represented each key business type in the cannabis industry.



Cannabis cultivation is ramping up across the country. A common cultivation trend in new markets is a shortage of cannabis immediately following regulation, then an overproduction as the state ramps up production to meet demand, and eventually an equilibrium between marijuana supply and demand.

The survey asked participants to select from a list of activities to describe their company’s role in the cannabis industry.



The survey shows that companies in the cannabis industry are involved in a wide range of activities. Most respondents (87.5%) work in producing or packaging finished goods, highlighting a strong focus on the final stages of cannabis manufacturing. This focus is likely due to the strict regulations on how cannabis products are presented and delivered to customers.

The survey also reveals important details about other parts of the industry. A large number of companies (81.5%) are involved in processing and extracting, showing the importance of turning raw cannabis into various products. Additionally, 66% of companies are involved in growing cannabis, indicating a deep connection to the entire supply chain from growth to final product.

A significant portion (62.5%) of companies are in the retail sector, showing their direct interaction with consumers. This indicates the tendency toward vertical integration.

KEY INSIGHTS:

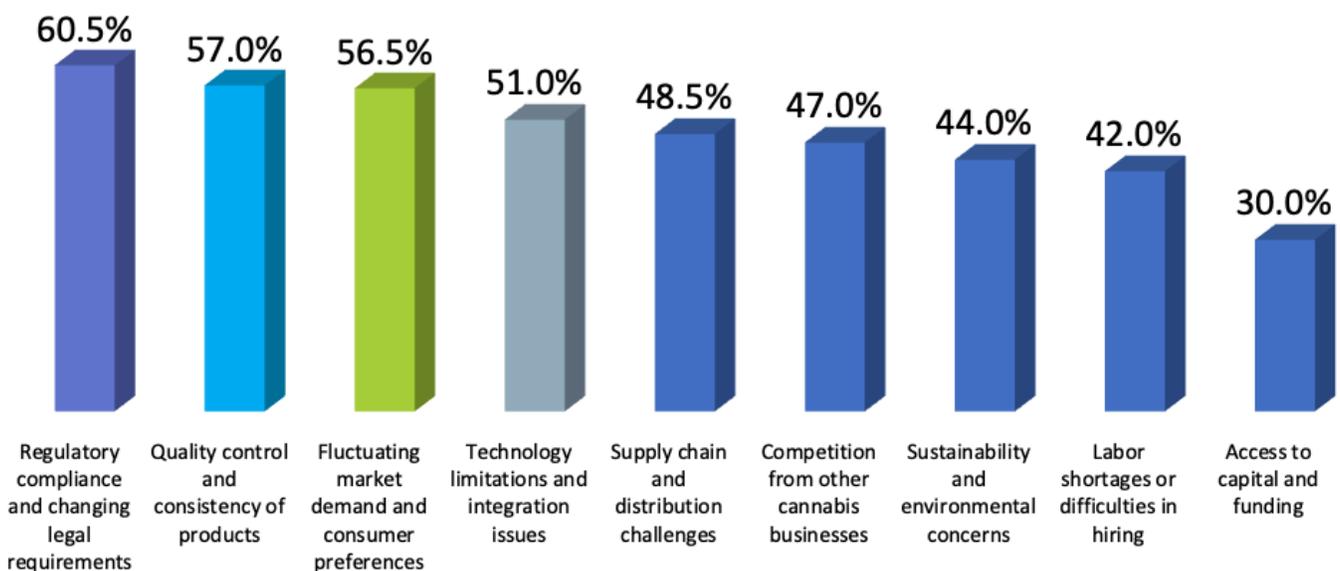
Survey insights reveal key dynamics within the cannabis industry. With over 7,490 dispensaries nationwide, the sector faces accessibility challenges, prompting a surge in technology-driven delivery services. This adaptability reflects the industry's response to evolving consumer needs.

The survey also underscores rigorous packaging regulations, emphasizing child-resistant, tamper-evident, and resealable packaging. For edibles, opacity is a consideration, aligning with guidelines from the Medicinal and Adult-Use Cannabis Regulation and Safety Act. These findings provide a holistic view, capturing operational nuances and regulatory imperatives shaping the industry.

Chapter 2:

Operational Hurdles and Strategic Approaches

The survey investigates the difficulties faced by companies in cannabis cultivation or processing. It asks respondents to choose challenges from a list. The goal is to understand the various hurdles these companies deal with, giving a full picture of the industry.



Many cannabis companies face challenges staying compliant with changing laws and regulations, with 60.5% mentioning it as a problem. This means they struggle to keep up with the rules that govern cannabis, making it tough for them to plan their operations. Another big issue for 57.0% of these companies is maintaining the quality of their products and ensuring consistency. This shows they find it hard to keep their products at a high standard all the time, which is crucial in the competitive cannabis market.

About 56.5% of companies find it challenging to meet the changing preferences of consumers and deal with shifts in market demand. Adapting to what customers want and staying ahead in

the market is a constant struggle for them. Around 51.0% of these companies face issues with their technology and how it integrates into their operations. For example, many rely on spreadsheets for inventory management and must duplicate data entry into a state mandated system. They need better and more advanced technology to streamline their work and become more efficient.

For 48.5% of companies, managing the supply chain and distribution is a significant problem. This includes dealing with everything from getting products ready to delivering them to consumers, and it is a complex process. Competition from other cannabis businesses is a concern for 47.0% of respondents. With many companies entering the market, standing out and being better than others is tough.

Sustainability and environmental issues bother 44.0% of companies. They realize the importance of being eco-friendly, but it is challenging for them to implement these practices. Labor shortages or hiring difficulties are a problem for 42.0% of these companies. Finding and keeping good employees in a fast-growing industry is tough for them. About 30.0% of companies find it hard to get enough money for their operations. This means they struggle with financial issues and need more support to grow and succeed.

What would the respondents describe as the biggest inefficiency at their respective companies within the cannabis cultivation and processing sector?



The responses from various cannabis companies shed light on a multitude of inefficiencies prevailing within the industry, providing a nuanced understanding of the challenges faced by businesses in this dynamic sector. A recurring theme among respondents is the pressing need for technological advancements. Many express concerns about the limitations of their existing technology infrastructure, emphasizing a strong desire for more advanced solutions. Specific mentions of inefficiencies in current technology tools underscore the urgency for incorporating cutting-edge technologies, with some respondents explicitly expressing a keen interest in leveraging emerging solutions like AI to bolster their operational capabilities.



Vangst's State of the Cannabis Economy report also found that **52.4% of cannabis business leaders consider regulations and compliance as their top challenge.**

Today's cannabis business leaders are challenged to decide which initiatives should be prioritized. While some may prioritize robotics or advanced growing systems, we're seeing more long-term success in those that prioritize business applications and their ERP system. By starting with technology early in their business growth, they're able to onboard new states faster, add new products to their mix, and more easily incorporate additional technologies as they progress.

Business applications like Dynamics 365 Business Central and SilverLeaf include AI functionality out of the box that helps streamline processes, eliminate manual effort, and provide insights into data to make better decisions. With the right business applications in place, companies can reduce the number of employees they need, or redirect those employees to more valuable work.

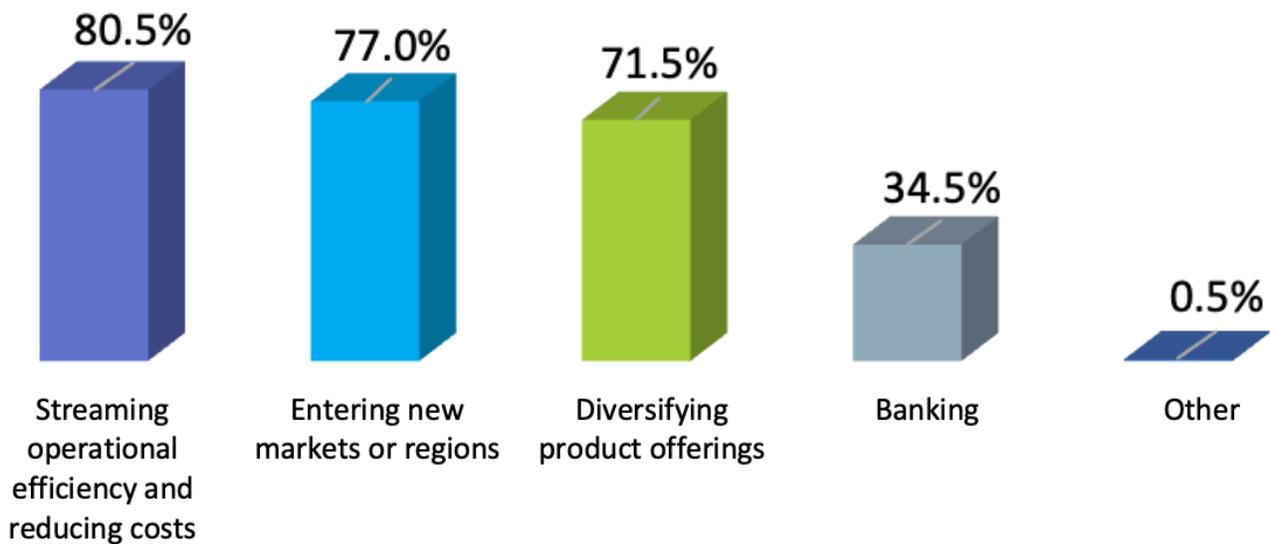
Workforce-related challenges stand out as another significant inefficiency area. Companies report issues ranging from shortages of manpower and low employee morale to the difficulties associated with finding and retaining skilled and reliable workers. The responses collectively emphasize the pivotal role that a well-managed, motivated, and skilled workforce plays in addressing operational inefficiencies.

Supply chain constraints and product availability represent critical inefficiencies for certain companies. Respondents highlight challenges in managing supply chain logistics, predicting demand accurately, and ensuring consistent product availability. These issues underscore the complexities of navigating production, distribution, and market demand, requiring enhanced strategies for efficient supply chain management.

Regulatory and financial considerations contribute to the overall landscape of inefficiencies. Companies cite concerns related to banking, regulatory compliance, tax problems, and economic challenges. The need for smoother operational procedures, improved financial distributions, and adept management of economic factors emerges as essential for navigating the often complex and evolving regulatory landscape surrounding cannabis businesses. Several responses underscore a keen **awareness of the transformative potential of emerging technologies**. Companies recognize that embracing innovations such as AI, automation, and data analytics can revolutionize their operations, leading to increased productivity and more streamlined processes. The acknowledgment of these technologies as potential solutions signifies a forward-looking approach among cannabis businesses, actively seeking ways to overcome current inefficiencies.

In summary, the diverse inefficiencies recognized by cannabis companies underscore the multifaceted nature of challenges within the industry. From technology limitations and workforce management issues to supply chain complexities and regulatory concerns, these insights provide a comprehensive overview of the areas where companies are actively seeking improvement.

 The survey wants to know what people think are the big opportunities for growth in the cannabis industry. Participants can choose from a list of options that might help the industry grow and develop. The question asks them to think about what could make the cannabis business get bigger and better.



The survey data indicates that a significant majority of respondents, approximately 80.5%, recognize the importance of improving operational efficiency and reducing costs in the cannabis industry. This suggests a strong emphasis on streamlining processes to make operations more efficient and cost-effective. Entering new markets or regions is identified by 77.0% of organizations as a substantial opportunity for growth. This signifies a strategic focus on expanding the geographical footprint of cannabis businesses, tapping into new markets, and potentially reaching a wider consumer base.

Diversifying product offerings is considered a significant avenue for growth by 71.5% of respondents. This suggests a recognition of the importance of offering a variety of cannabis products to cater to diverse consumer preferences and market demands. Banking, identified by 34.5% of respondents, reflects the industry's acknowledgment of the importance of financial

stability and access to traditional banking services. This could be crucial for businesses operating in an industry with complex regulatory landscapes.

The minimal percentage (0.5%) selecting "Other" suggests that there might be specific, less common opportunities for growth that were not covered in the provided options. Further exploration would be needed to understand these alternative perspectives. Overall, the data highlights a multifaceted approach to growth in the cannabis industry, with a focus on operational efficiency, market expansion, product diversification, and financial considerations.



KEY INSIGHTS:

The cannabis cultivation and processing industry in the U.S. is going through a period of significant growth and economic importance. With the majority of states—37 out of 50—having medical or recreational cannabis programs, the industry is expanding rapidly. The industry is expected to reach almost \$40 billion by the end of 2024. The opening of new adult-use markets is contributing to this growth, with total cannabis sales expected to rise to \$52.6 billion by 2026. This highlights the substantial impact of the cannabis industry on the overall U.S. economy.

Despite these positive trends, the industry faces challenges due to outdated stigmas and the federal classification of cannabis as a Schedule 1 narcotic. This status, established in the 1970 Controlled Substance Act, introduces regulatory complexities as individual states interpret and implement compliance standards; there is no legal distinction between marijuana and substances like heroin, LSD, ecstasy, and bath salts. This complex regulatory landscape poses challenges for businesses trying to comply with diverse state regulations.

In the dynamic cannabis industry, businesses are strategically adopting

the latest advancements in cannabis technology. The rise of Industry 4.0, which includes technologies like artificial intelligence (AI), robotics, computer vision, machine learning, and automation, is already playing a crucial role in enhancing efficiency and profitability.

The use of cutting-edge technologies, especially automation, is a key driver for growth. This strategic approach allows companies to improve efficiency by automating tasks like plant trimming, harvesting, and packaging, reducing labor costs. Automation not only enhances operational efficiency but also enables workers to focus on more specialized roles, such as quality control, research and development, and customer service.

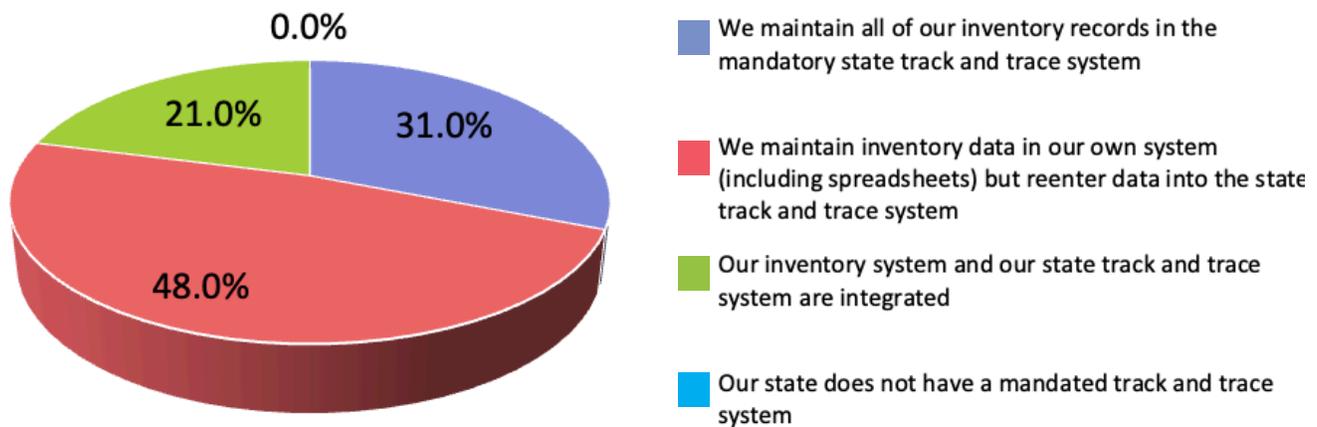
The adoption of automation also aligns with regulatory requirements, ensuring accurate and consistent product packaging and labeling. This strategic use of technology addresses risks associated with product mislabeling, demonstrating a commitment to quality and compliance in the cannabis industry. As businesses navigate both opportunities and challenges, the integration of advanced technologies remains a critical factor in shaping the industry's future.

Chapter 3:

Growing Your Cannabis Business with Power BI



The survey asked how companies make sure they follow regulations for parts of their business that do not involve selling directly to customers. The responses show the different ways companies handle regulations in various aspects of the cannabis industry. This reveals the industry's dedication to creating a responsible and compliant business environment.



The responses to the question about compliance processes for non-retail operations provide insights into how companies manage their inventory records. A portion of companies (31.0%) directly use the state-mandated track and trace system to keep all their inventory records. This indicates a straightforward and streamlined approach, ensuring the company's inventory complies with state regulations.

Nearly half of the respondents (48.0%) maintain their inventory data in their own system, such as spreadsheets, but they reenter this data into the state track and trace system. This approach might introduce an additional step, but it allows companies to use their preferred systems while still meeting regulatory requirements. Unfortunately, this allows for errors in data leaving workers unsure which data is correct.

A smaller percentage of companies (21.0%) have an integrated system where their inventory management system and the state track and trace system are connected. This integration enhances efficiency by reducing the need for manual data entry, potentially minimizing errors, and saving time.

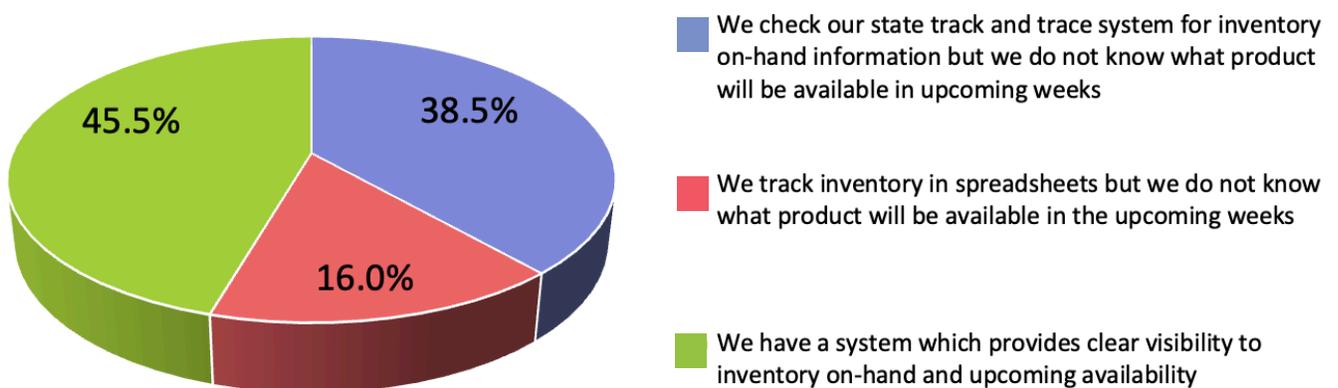
All surveyed companies operate in states with mandated track and trace systems. This highlights the need for efficiencies in technology such as systems which integrate to the state systems thus minimizing duplicate data entry.

KEY INSIGHTS: Nearly half of the respondents (48.0%) maintain their inventory data in their own system, such as spreadsheets. Maintaining inventory data manually in the U.S. cannabis industry can give rise to various implications and challenges for businesses. Some notable issues and consequences are Compliance and Regulatory Risks and Inaccurate Inventory Records. Manual inventory management may lead to backlogs and discrepancies, exposing businesses to fines and penalties from

regulators. The risk of inaccurate inventory records increases with manual data entry, potentially resulting in compliance violations and operational inefficiencies. Poor inventory management can lead to higher holding costs, overstocking, or understocking, impacting the business's overall financial performance. Manual inventory management processes are time-consuming and prone to errors, causing inefficiencies in procurement, sales, and other operational aspects.



Survey participants shared how they handle inventory reporting in the US cannabis industry. The options given helped understand the different ways businesses manage and report their inventory. The responses show the varied strategies used by industry players to deal with the complexities of inventory tracking and reporting.



The survey uncovered diverse ways cannabis businesses keep track of their inventory. About 38.5% rely on the state track and trace system to know what products they have now but struggle to predict what will be available in the future. Meanwhile, 16.0% use spreadsheets to manage inventory, facing the same challenge of uncertainty about upcoming product availability. On the brighter side, a significant 45.5% use a system that not only shows what is in stock but also gives a clear view of what products will be available in the coming weeks. This diversity in approaches highlights the need for systems that offer a complete picture of both current and future inventory.

As I read these results, I was surprised by this finding. The cannabis operations we meet with frequently struggle with inventory and managing the supply chain, especially during this time of widespread supply chain disruption. Many organizations understand the inventory of their finished goods, but they might not fully understand if they have enough packaging for upcoming orders. Keep in mind that inventory is much more than just cannabis products; it is also the components that go into completing the finished product. Additionally, a key area to consider here is the ability to forecast and project sales of each specific item you produce. That will help eliminate overstock and provide insights into exactly what you need to have in your inventory at any given time.

Many organizations start on spreadsheets but soon find the limitations and manual updating to be time consuming and error prone. By moving inventory management into an ERP solution, you benefit immediately with real time data access and visibility into stock levels. Plus, you'll see an improvement in accuracy and efficiency, reduction in cost by automatically optimizing inventory levels using historical data and predictive analysis, and an integration to track and trace systems.

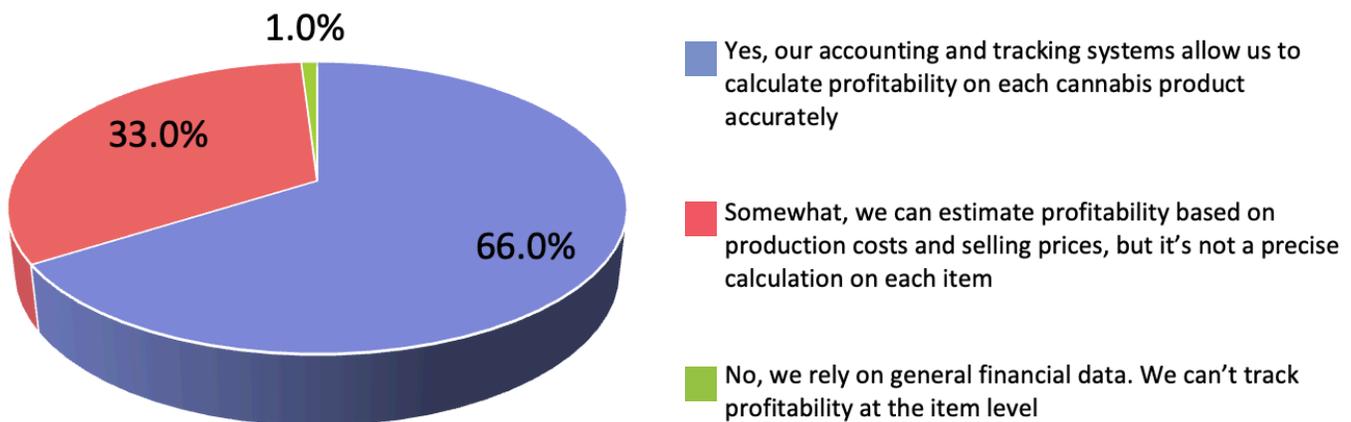


The U.S. cannabis industry, facing challenges due to complex regulations and financial constraints, is advised to shift from using spreadsheets to adopting robust ERP solutions. Spreadsheets are criticized for data integrity issues, scalability limitations, and compliance challenges. In contrast, ERP systems offer centralized data, automation, traceability, and integrated analytics. Despite concerns about initial costs and implementation challenges, industry experts argue that the long-term benefits of ERP, such as enhanced efficiency, accuracy, compliance, and scalability, justify the transition for sustained growth in this dynamic market.





Can businesses accurately track how much money each of their products makes? This question explores how well companies in the cannabis industry manage their finances. It asks respondents to explain how good their accounting and tracking systems are at figuring out the profit of each cannabis product. The goal is to understand how well these companies handle the complexities of analyzing costs, setting prices, and being transparent about their finances.



The data suggests that a significant majority of companies, around 66.0%, have robust accounting and tracking systems enabling them to accurately calculate the profitability of each cannabis product. This indicates a high level of financial transparency and precision in managing costs and pricing strategies.

A smaller percentage, 33.0%, acknowledges a moderate capability. These companies can estimate profitability based on production costs and selling prices, although it is not a precise calculation for each individual item. This suggests a level of financial awareness but with room for improvement in achieving a more detailed understanding of item-level profitability.

Only a minimal percentage, 1.0%, indicates a reliance on general financial data without the ability to track profitability at the item level. While this group is small, it highlights a potential gap in financial tracking capabilities for a fraction of the companies surveyed.

Our survey shows that most people who answered work for medium to large and enterprise level companies. We've noticed that the bigger the company, the more likely they are to have all-in-one systems. These tools and systems aren't just nice to have; they're key parts of how these companies run. It makes it easier to manage finances, keep an eye on profits, and make smart choices, which is important for larger companies.

On the other hand, the smaller companies make up the rest of the bunch. These smaller guys admit they're doing things more simply or just getting by with what they have, but there's a lot of room to get better, especially when it comes to really understanding their profits and tracking things closely like the big players do. This information doesn't just show us where companies stand with their finance skills; it also points out a path for the smaller ones looking to level up and fine-tune how they handle their finances.

A recent report from Whitney Economics, a cannabis data and research company based in Oregon, reveals that only 24.4% of businesses in the U.S. cannabis sector state they are profitable. This finding underscores the ongoing challenges faced by the industry.



Businesses lacking accurate financial data face several consequential issues. This includes misallocating resources, missing growth opportunities, eroding stakeholder trust, encountering legal troubles, and experiencing challenges in spending estimations. Inaccurate financial statements can lead to overspending or underspending, impacting overall financial stability. To address these issues, businesses are advised to prioritize accurate financial data through robust internal controls, precise reporting, and seeking professional financial management assistance when necessary.

KEY INSIGHTS:

In the world of following regulations in the cannabis industry, technology is playing a crucial role, especially in non-retail operations. Using strong ERP systems has become essential for companies to handle strict regulations effectively. These powerful systems, with advanced track and trace features, help manage inventory, improve production processes, and meet compliance standards. They smoothly include features like lot control and quality tracking, which are crucial for following compliance rules.

When it comes to the complex world of the cannabis sector, keeping track of money and inventory is super important. The survey results tell us how different companies report their inventory, showing how vital it is to know what products are available and when. This urgency comes from the complicated rules – in states where cannabis is legal, strict tracking and

detailed financial records are a must for getting a license. Many companies use seed-to-sale software to meet these rules, but it can be challenging when important data is stuck in separate places, making it hard to manage the business well.

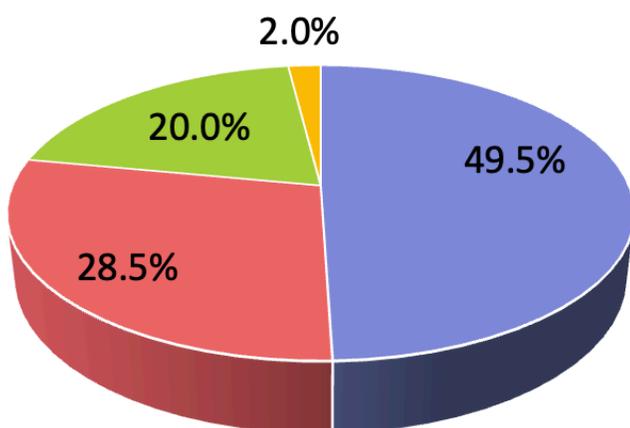
Looking beyond the survey, a detailed analysis explores what affects the percentage of profit companies make in the cannabis industry. On average, companies make a profit of 45% to 55%, but this can change based on where they operate, their strategies, and what products they sell. The story looks at Trulieve Cannabis Corp. as an example, showing how based on where they are and the different products they sell, they can realize different profit percentages. These insights show how crucial it is to have a smart and balanced approach to managing money in the ever-changing cannabis industry.

Chapter 4:

Technological Terrain: Prospects and Considerations



The survey asked participants to share their thoughts on how well the technology in their cannabis cultivation or processing operations is working. The goal was to understand their views on how efficient, functional, and impactful the current technology is in these important parts of the cannabis industry.



- **Competent** - We have technology solutions in place that help us automate our processes. However, data is still siloed or we use systems that are not integrated
- **Best in Class** - We have technology solutions in place that are integrated into one platform. We have real-time insights to our business and can make informed decisions
- **Emerging** - We have basic technology solutions in place but our processes are still very manual or disconnected
- **Limited** - We do not have technology in place and we rely on manual, paper based processes

The survey data reveals a varied technological landscape within the cannabis industry. A small portion (2.0%) indicates a lack of technology reliance, relying on manual, paper-based processes. A larger segment (20.0%) describes an emerging stage with basic technology solutions but significant manual or disconnected processes.

The majority (49.5%) fall into the "Competent" category, indicating the presence of technological solutions that aid automation. However, there are challenges, such as data silos or the use of non-integrated systems. A notable 28.5% claim a "Best in Class" status, showcasing integrated technology solutions providing real-time insights, empowering informed decision-making. This suggests a significant portion of the industry has embraced advanced, cohesive technological ecosystems.

KEY INSIGHTS:

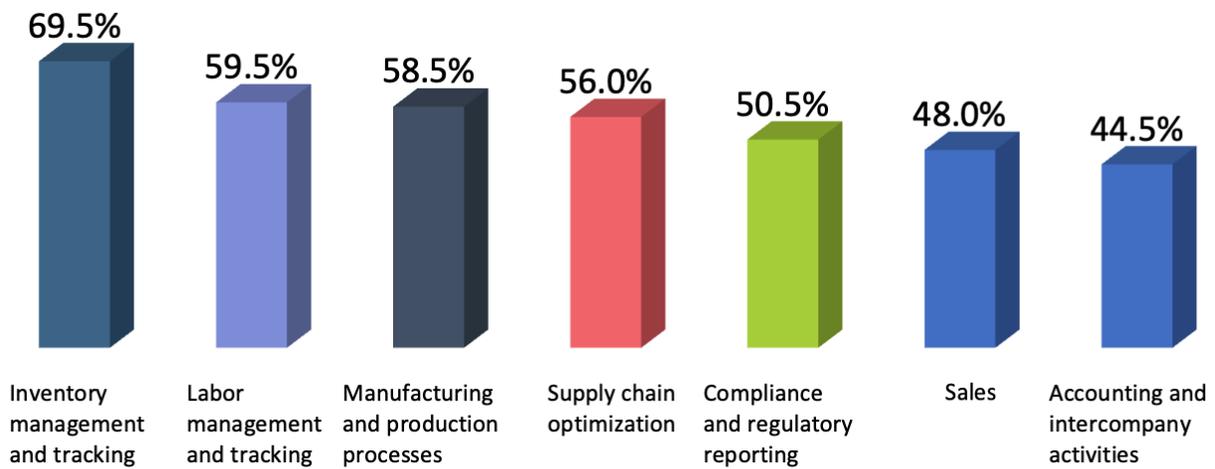
The data provided in this chart reflects what we've been seeing across the cannabis industry. This sector is known for its diverse approach to tech, largely because rules can vary a lot, the industry itself is growing quickly, and not all companies have the same amount of money to throw at new technologies.

Seeing a shift from basic tech to top-notch solutions tells us this industry is on the move, quickly getting on board with the latest tools and strategies to deal with its challenges.





The survey asked cannabis industry professionals about the parts of their business that could benefit from using technology or software. They could choose multiple options, giving a detailed view of where technology could make a difference. This question aimed to understand their thoughts and get a complete picture of the different areas in the cannabis business that might gain the most from using technology.



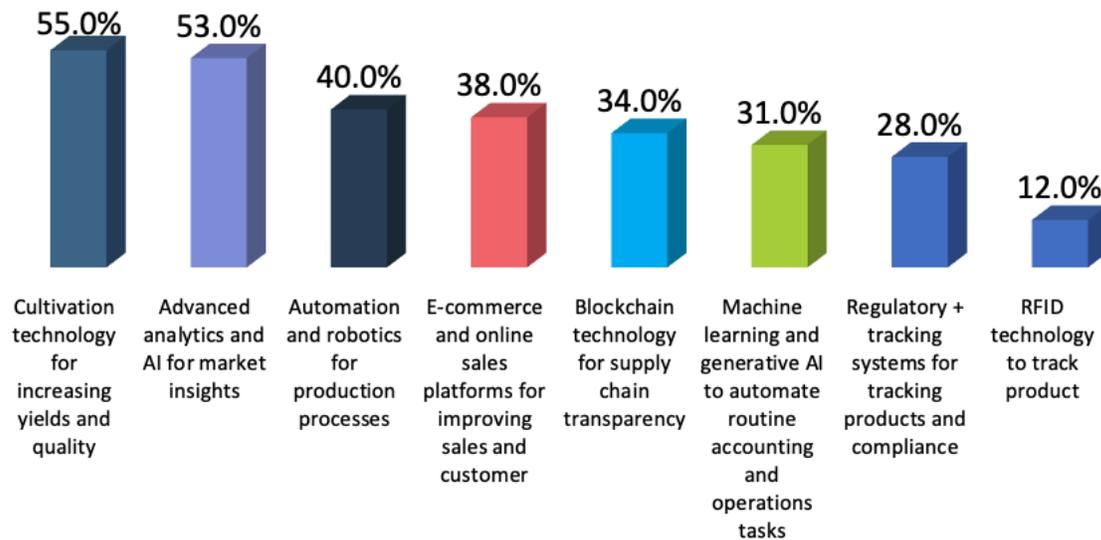
This data reveals the perceived priorities for implementing technology or software solutions in various aspects of the cannabis industry. Inventory management and tracking stand out as the top priority, with 69.5% of respondents recognizing the potential benefits in this area. Following closely, labor management and tracking (59.5%) and manufacturing and production processes (58.5%) are also considered significant areas for technological improvement.

Supply chain optimization is highlighted by 56.0% of respondents, emphasizing the importance of efficient logistics and distribution in the cannabis industry. Compliance and regulatory reporting (50.5%) indicate a strategic focus on meeting legal requirements and ensuring adherence to industry regulations. Sales (48.0%) and accounting and intercompany activities (44.5%) are also recognized as areas where technology could bring valuable enhancements, showcasing a holistic approach to business operations.



People were asked to pick the three technologies they think will help their cannabis businesses the most in the future.

This question aimed to understand what advancements or innovations are important for the industry. Respondents shared their thoughts on technologies that could improve their operations, make things more efficient, follow the rules, and help their businesses grow.



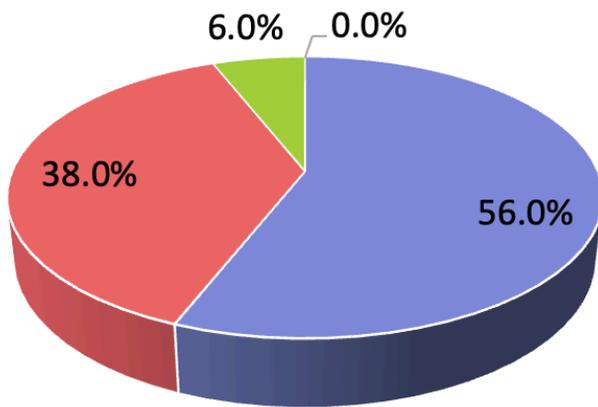
The data indicates the perceived importance of various technologies in the cannabis industry for the coming years. Cultivation technology, seen as crucial for increasing yields and improving quality, leads the list with 55.0% of respondents recognizing its significance. Advanced analytics and AI for market insights closely follow, with 53.0%, emphasizing the industry's acknowledgment of the power of data-driven decision-making.

Automation and robotics for production processes are considered valuable by 40.0% of respondents, indicating a recognition of the role technology plays in enhancing operational efficiency. E-commerce and online sales platforms for improving sales and customer experience are also noteworthy, with 38.0%, reflecting a growing emphasis on digital channels.

Blockchain technology for supply chain transparency is recognized by 34.0%, highlighting the industry's commitment to traceability and compliance. Machine learning and generative AI for automating routine tasks in accounting and operations are acknowledged by 31.0%, showcasing an interest in streamlining administrative processes. Regulatory and tracking systems for product tracking and compliance are considered important by 28.0%, underlining the industry's focus on adherence to regulations. RFID technology to track products is identified by 12.0%, indicating a moderate emphasis on this tracking method.



The survey asked people about how they view the technology they use for future growth in the cannabis industry. The question aimed to understand different opinions on adopting technology and how it relates to plans for expanding their businesses.



- Our company is planning to expand to new markets in the future and I am confident our technology platform will support this growth
- Our company is planning to expand to new markets in the future and I am concerned our technology platform might not support this growth
- Our company is planning to expand to new markets in the future and our technology platform will not support this growth
- Our company is not planning to expand to new markets

This data reflects the sentiments of cannabis industry participants regarding the alignment of their technology platforms with future expansion plans. The majority, at 56.0%, express confidence that their current technology can support the planned expansion into new markets. On the other hand, 38.0% have concerns about the adequacy of their technology platform for supporting growth in new markets. A smaller portion, 6.0%, feels that their existing technology will not support the expansion. Notably, no respondents from the survey indicated that their company is not planning to expand to new markets.



KEY INSIGHTS:

The marijuana industry is catching the eye of investors because of its focus on high-tech tools that are changing how they grow and process cannabis. These technologies aren't just about making things more efficient – they also show a commitment to innovation in areas like cultivation and processing. For example, remote sensors help predict potential growth issues, and new ways of increasing cannabinoids (the stuff that makes marijuana work) are helping with production costs and how products get to people. The use of LED lights, artificial intelligence, and blockchain technology shows that the industry is looking ahead, using these advancements to keep growing and stay competitive.

Blockchain technology, like what MJ Freeway uses, is super important for tracking cannabis from when it's planted to when it's sold. It makes sure transactions are safe and gives real-time info about inventory, sales, and following the rules. Blockchain's clear and unchangeable nature makes things even more secure and traceable, which is a big deal in an industry that cares a lot about following the rules and being open.

Another cool tech is Radio-Frequency Identification (RFID), which is almost 100% accurate in tracking plants and products. RFID can work without a clear line of sight, read a bunch of things quickly, and reduce mistakes. This makes managing inventory and following the rules a lot easier. This use of tech shows the industry is serious about being precise, clear, and meeting strict rules in how they get cannabis from the grower to the buyer.

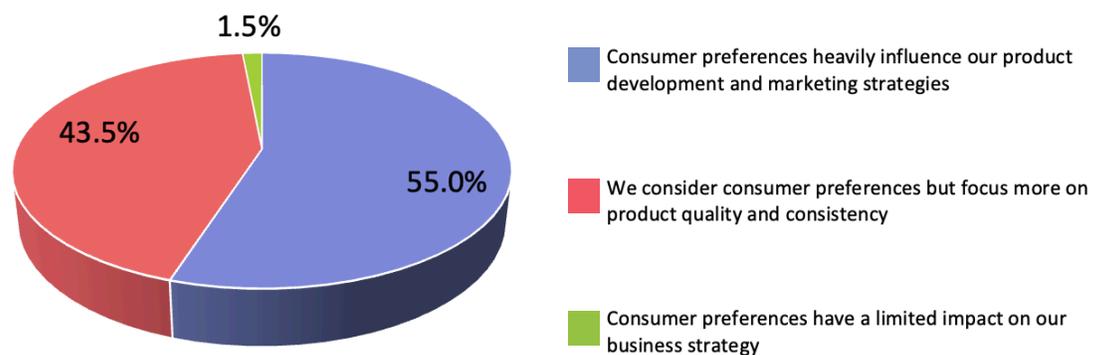
People in the industry are really tuned in to how important technology will be in the future. Growers are using mainstream ag tech – things like AI, augmented reality, robots, and drones – to make cannabis better, save on work costs, and be more productive. AI, especially, is helping with key things like how to grow, use labor better, keep track of growth rates, predict how much they'll get, manage inventory, and analyze how profitable they are. Big players like MJ Freeway, Eaze, Flowhub, GrowerIQ, and Rootstock Software are offering special tech solutions to help cannabis companies in new markets. This shows how crucial advanced tech is for helping cannabis companies in a tough and changing industry.

Chapter 5:

Consumer Preference and Geographic Expansion: Unmasking Market Forces



The survey asked participants about how they think consumer preferences will impact the future of the cannabis industry. The goal was to understand the participants' views on how what consumers like will shape the direction of the cannabis sector. The responses provided detailed insights into the connection between what consumers prefer and the strategies that cannabis businesses adopt to grow and stay relevant in the market.



The data suggests that a significant portion of respondents, 55.0%, prioritize consumer preferences in shaping their product development and marketing strategies. This indicates a strong alignment with meeting the demands and desires of consumers to drive business decisions.

On the other hand, 43.5% acknowledge consumer preferences but place a higher emphasis on maintaining product quality and consistency. This suggests a balanced approach, valuing both consumer insights and product integrity in their business strategy.

A small percentage, 1.5%, indicates that consumer preferences have limited impact on their overall business strategy. This could be due to various factors such as a unique market positioning or a strong commitment to specific product attributes that may not align closely with transient consumer trends.

KEY INSIGHTS:

It seems like we're really seeing the impact of putting the customer first in the cannabis industry. It's not just happening in this industry but across the board. Everyone's starting to pay more attention to what people want.

Looking at the bigger picture, it's clear the industry's got a good handle on things now. Businesses get how important it is to keep up with what customers are after and to make sure their products are solid. Considering all the hoops you have to jump through with regulations in this space, and how

the products can really affect people, it's important to strike the right balance. The numbers not adding up perfectly might just be a rounding thing, or maybe it's because some people are juggling a couple of top priorities at once.

The leading cannabis operations look to data to understand market trends and fluctuations in popularities of specific products. Armed with this information, those companies can make the right decisions related to their inventory, production, and the products they bring to market.



The survey asked participants about where their companies operate. This was to find out in which states they are active and understand the overall reach of their operations. The goal was to learn about the distribution of companies in different states, giving a clear picture of the industry's presence in different regions. The responses help us understand the strategic decisions, market expansion, and regulatory factors affecting how cannabis businesses operate.

The survey asked companies about where they operate in the United States, giving us a broad view of their presence in different states. California is a major focus, with 40.5% of companies operating there. This aligns with California's historical importance in the cannabis market, even before legalization.

New York, with 24.5%, is also significant. Recent changes in New York's regulations, like opening a 60-day application window for cannabis activities, show a proactive approach to expanding the legal cannabis market. This could bring in over 1,000 new licenses and reshape the industry.

Florida, with a 20.5% share, is a big player, having a well-established medical cannabis program. It reflects a growing market responding to changing rules and what consumers want. Colorado and Arizona, both at 15.0%, also play a crucial role in the cannabis industry. Illinois, Texas, and Alabama are notable, each with double-digit percentages (12.0%, 11.5%, and 10.0% respectively). This highlights the

diverse landscape of cannabis operations and regulations in these states. The survey shows that cannabis companies are operating in various states with different legalization levels and rules.



In an announcement on October 6, 2022, President Joe Biden declared, "No one should be incarcerated solely for using or possessing marijuana." He further expressed his intention to grant pardons for all past convictions related to the simple possession of marijuana at the federal level. Additionally, he urged all state governors to consider similar actions.

1	California	40.5%	17	Virginia	7.0%	33	Minnesota	3.5%
2	New York	24.5%	18	Delaware	6.5%	34	Ohio	3.5%
3	Florida	20.5%	19	Kentucky	6.5%	35	Tennessee	3.5%
4	Colorado	15.0%	20	Michigan	6.0%	36	South Dakota	3.0%
5	Arizona	15.0%	21	Pennsylvania	6.0%	37	Nebraska	2.5%
6	Illinois	12.0%	22	Massachusetts	5.5%	38	Oklahoma	2.5%
7	Texas	11.5%	23	Mississippi	5.5%	39	Oregon	2.5%
8	Alabama	10.0%	24	Nevada	5.5%	40	West Virginia	2.5%
9	Alaska	10.0%	25	North Carolina	5.5%	41	North Dakota	2.0%
10	Washington	9.5%	26	Connecticut	5.0%	42	Montana	1.5%
11	Arkansas	8.5%	27	Louisiana	5.0%	43	Wisconsin	1.5%
12	New Jersey	8.0%	28	Missouri	4.5%	44	Rhode Island	1.0%
13	Georgia	7.5%	29	Hampshire	4.5%	45	Utah	1.0%
14	Indiana	7.5%	30	New Mexico	4.0%	46	Vermont	0.5%
15	Hawaii	7.0%	31	Iowa	3.5%			
16	Maryland	7.0%	32	Maine	3.5%			



As of January 2023, recreational cannabis use, in addition to medical marijuana, is legal for individuals over the age of 21 in 21 states, Washington D.C., and Guam. These states include Alaska, Arizona, California, Colorado, Connecticut, Illinois, Maine, Maryland, Massachusetts, Michigan, Missouri, Montana, Nevada, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Virginia, and Washington.

KEY INSIGHTS:

The way the cannabis industry is booming, is not just luck. It's all about companies being smart with their moves—like merging with the right partners, making the right connections, and growing their business from the ground up. It's interesting to see, and honestly, software is a huge part of that story. It's incredible for businesses that want to grow without hitting too many bumps along the way.

From my perspective, as these businesses look to grow into new sectors, tools like

SilverLeaf and Microsoft Dynamics 365 are becoming more important. They bring the kind of adaptability and efficiency you need to get new parts of the business up and running. It's great to see how tech is fueling growth in the industry, helping companies move fast and stay aligned with their goals, all while keeping operations streamlined.

We've worked with a variety of cannabis operations—ranging from startups to well-established, large operations and we've seen how technology can help these businesses grow at a rapid rate.



The survey asked cannabis companies about their plans for expansion in the next three years, focusing on the states they aim to enter. The goal was to understand where the industry is heading, both in terms of growth and geographic reach. Companies shared details about their expansion plans, giving insights into how the cannabis landscape might change and which states are seen as potential markets.

The survey data reveals the detailed expansion plans of cannabis companies for the next three years. It shows a careful strategy that considers the varied regulations in different states. The focus on California, New York, and Florida makes sense as they have established positions and changing regulations. Companies are strategically choosing these states to tap into potential growth opportunities.

California remains a major player, with 35.0% of respondents planning expansion there. New York is a key target for 19.5% of respondents, indicating a keen interest in new regulatory developments. Florida, with 14.5% interest, is attractive due to its established medical cannabis program and growth potential.

Balanced interest in Colorado, Illinois, and Arizona at 9.5% each suggests a thoughtful approach to diverse regulatory frameworks. These states, with mature cannabis markets or evolving landscapes, offer unique opportunities. The 7.5% interest in Texas, known for strict regulations, shows a readiness to tackle challenges, in anticipation of regulatory changes.

Several other states, each with 5.0% or more interest in expansion, highlight the industry's understanding of diverse market dynamics. Alaska, Arkansas, New Jersey, Washington, Alabama, Hawaii, Virginia, Indiana, Maryland, Kentucky, and Michigan represent a range of regions, each with unique regulatory nuances, growth potential, and market factors. The strategic distribution of expansion plans underscores the industry's adaptive and informed approach to geographic growth.

1	California	35.0%	17	Kentucky	4.0%	33	Oregon	2.0%
2	New York	19.5%	18	Michigan	4.0%	34	Tennessee	2.0%
3	Florida	14.5%	19	New Hampshire	3.5%	35	Connecticut	1.5%
4	Colorado	9.5%	20	North Carolina	3.5%	36	Delaware	1.5%
5	Illinois	9.5%	21	Georgia	3.0%	37	North Dakota	1.5%
6	Arizona	9.0%	22	Louisiana	3.0%	38	South Dakota	1.5%
7	Texas	7.5%	23	Mississippi	3.0%	39	Iowa	1.0%
8	Alaska	7.0%	24	Nevada	3.0%	40	Montana	1.0%
9	Arkansas	6.0%	25	Pennsylvania	3.0%	41	Nebraska	1.0%
10	New Jersey	5.5%	26	Maine	2.5%	42	West Virginia	1.0%
11	Washington	5.5%	27	Minnesota	2.5%	43	Rhode Island	0.5%
12	Alabama	5.0%	28	Missouri	2.5%	44	Utah	0.5%
13	Hawaii	5.0%	29	New Mexico	2.5%	45	Vermont	0.5%
14	Virginia	5.0%	30	Massachusetts	2.0%	46	Wisconsin	0.5%
15	Indiana	4.5%	31	Ohio	2.0%			
16	Maryland	4.5%	32	Oklahoma	2.0%			

Medical cannabis is currently legalized in 37 states and Washington D.C. These states include Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Vermont, Virginia, Washington, and West Virginia.

KEY INSIGHTS:

The survey data provides a detailed view of how consumer preferences are shaping the United States cannabis industry, especially with the legalization of recreational cannabis in many states. The factors influencing consumers' choices are evolving, with 'quality,' 'strain type,' 'price,' 'THC' (tetrahydrocannabinol), and 'pesticide' identified as the top five drivers for purchases in dispensaries. Together, these factors hold significant sway, making up about half of the total importance. Interestingly, 'quality,' 'THC,' and 'price' are particularly important for recreational and dual-purpose users, while medical users prioritize attributes like 'CBD' and 'pesticide.' Surprisingly, the importance of the 'package' is consistently lower across all user groups. This insight sheds light on the nuanced preferences of cannabis consumers in a changing legal landscape.

The cannabis industry has experienced substantial growth, reaching nearly 20 million users by 2019. This growth challenges old stereotypes and reveals a diverse group of modern cannabis consumers with varied preferences. Examining income demographics provides interesting insights into product choices. Consumers earning less than \$49,000 annually are 20% more likely to choose traditional products like flower and pre-rolls. On the other hand, those making over \$100,000 annually prefer innovative options like capsules and cannabis-infused beverages, reflecting a preference for modern, health-conscious choices. Gender differences in THC and CBD preferences also contribute to industry segmentation, with males favoring THC-dominant products (making up 60% of such purchases) and females showing a 60% preference for CBD-dominant products. These detailed findings highlight the industry's need to adapt strategically to meet the diverse and evolving demands of consumers.

ENVISIONING 2025

Looking into the future, the survey showcases considerations and emerging trends set to shape the trajectory of the cannabis industry. A central theme is the industry's recognition of the need for sophisticated accounting and tracking systems, essential for precise profitability calculations. The survey underscores companies' reliance on accurate financial insights, prompting strategic investments in robust systems for a competitive edge.

The examination of gross profit margin percentages stands out as a financial health indicator for cannabis companies, with the standard range of 45% to 55%. Notably, the higher gross profit margin reported by Trulieve Cannabis Corp. prompts contemplation about the nuanced interplay of cost allocations, product mix, and regional dynamics. This signals a call for companies to align their financial strategies with the intricate nuances of the market.

While a significant majority (56%) expresses confidence in their technology platforms supporting expansion into new markets, a substantial 38% have concerns. This divide underscores a critical juncture where companies must assess and upgrade their technology infrastructure to meet the demands of an industry poised for growth. It sets the stage for technology providers to play a pivotal role in offering custom solutions that align with companies' expansion strategies.

Delving into the technology landscape supporting the cannabis sector, the survey

identifies a spectrum of services, from real-time data analytics to seed-to-sale tracking systems. As the industry expands into new markets, the role of technology is vital to ensuring compliance, optimizing operations, and navigating complex regulatory landscapes. The survey accentuates the imperative for cannabis companies to stay on top of emerging technologies that can serve as catalysts for successful market entry and sustained growth.

Insights into the activities performed by cannabis companies shed light on the sector's operational landscape. The dominance of processing and extraction (81.5%) and production or packaging of finished goods (87.5%) underscores the industry's multifaceted nature. Navigating regulatory requirements for packaging and labeling, the survey emphasizes the need for meticulous adherence to child-resistant, tamper-evident, and resealable packaging, especially for edible products. This regulatory awareness is poised to be a critical factor for companies seeking sustainable operations.

Geographical insights into current and planned operations offer a glimpse of the cannabis industry's geographic footprint. As California emerges as a major hub with a 40.5% presence, the survey highlights a future where companies strategically expand into diverse markets. Looking ahead three years, the planned expansion into California, New York, and Florida indicates a strategic alignment with established markets. The cannabis industry, with its intricate dynamics and strategic foresight, is set for a transformative journey ahead.

As the cannabis market becomes increasingly competitive, the importance of Enterprise Resource Planning (ERP) systems for managing costs is becoming more critical than ever. Efficient and integrated ERP solutions are not just a luxury for large enterprises; it's essential for any business that wants to maintain a competitive edge through precise cost control and operational efficiency.

Recognizing the barriers to entry for smaller companies, Velosio is stepping up with an innovative solution—a "starter pack" ERP designed just for the needs of emerging players. This move is all about making top-tier business management tools accessible, helping smaller cannabis businesses grow and hold their own in a competitive market.

As the industry keeps changing and growing, Velosio's focus on making technology accessible shows we're a key partner for businesses looking to thrive in the ever-evolving landscape of the cannabis sector.

FINAL THOUGHTS

No matter what stage you are in your business journey, from ideation to expansion to optimization, our team at Velosio is dedicated to guiding you through the digital landscape. We pride ourselves not just on the technology we deliver, but on the journey we embark on with you, customizing our approach to fit not just your business model but your vision for the future.

Unlike others who may offer you a one-size-fits-all solution, we believe in a partnership that evolves with you, leveraging our deep industry insight to ensure your company thrives in a changing digital environment. With decades of expertise and a portfolio enriched by the success stories of diverse businesses, we are not just confident in our ability to meet your needs—we are excited to exceed them.

Connect with Velosio now—where innovation meets your cannabis business's ambitions.

LET'S TALK TODAY

ABOUT SILVERLEAF

Built on Microsoft Dynamics 365 Business Central and available on Microsoft AppSource, SilverLeaf was crafted to address the dynamic needs of today's cannabis market and pave the way for future success. In the world of business, data and reporting determine success or failure. Microsoft Power BI offers unparalleled Business Intelligence (BI), making your data truly actionable for cannabis processors.

If you have questions or want to learn how SilverLeaf can help your business, connect with us today.

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SILVERLEAF CLIENTS



PRODUCTS

