Business Practices, Performance, and Challenges in the Retail Cannabis Industry

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ABSTRACT

Objective: This study examines business practices, performance perceptions, and operational challenges within the U.S. retail cannabis industry, identifying gaps between perceived importance and performance across six core business functions. **Method:** Drawing on Dynamic Capabilities Theory (DCT), a survey of cannabis industry professionals assessed the perceived importance and performance of key business functions. Paired-sample t-tests identified importance–performance gaps, and correlation analysis evaluated the relationship with the DCT. **Results:** Significant gaps emerged in five of six operational areas, with advertising, marketing, and promotion showing the largest discrepancy. Financial management was rated the most critical and anxiety-inducing function. Although customer knowledge showed no gaps, results revealed weaknesses in consumer profiling and targeting. **Conclusions:** Managers should consider strengthening marketing agility, refining consumer profiling, and enhancing financial and strategic planning. Closing the identified gaps and turning them into strengths in core operations can potentially lead to higher-order transformative capabilities, resulting in higher productivity, growth, and profits within a highly regulated environment.

Key words: cannabis retailing; dynamic capabilities theory; business performance; retail management; marketing effectiveness

The 20th and 21st centuries have seen a wave of changing public attitudes toward the cannabis industry that resulted primarily in ballot or voter initiatives starting in the Western States, with California the first state to legalize medical cannabis in 1996; this was followed by Oregon, Nevada, Washington, Colorado, and Maine over the next four years (Harman, 2022). In 2012, Colorado became the first US state to legalize adult-use recreational marijuana, and Canada was the first G7 country to nationally legalize recreational or adult-use cannabis (Harman, 2022; Ross, 2018). Since then, states across the country have legalized medical or adult-use cannabis, and the growth in the cannabis market size across the country is projected to grow significantly over the next decade despite conflicting federal and state cannabis laws (Stoa, 2023).

With the changing attitudes and continued legalization across states, research related to cannabis has emerged over the last few decades, particularly associated with the regulatory (Bhawal & Salimath, 2022; Stoa, 2023), banking (Hill, 2021), and health aspects of the industry (Carlini & Schauer, 2022; Cohen et al., 2019; Volkow et al., 2014). Business practices, however, have not been a particular focus for researchers. This general lack of inquiry by business disciplines may be at least partially explained by federal and international criminal prohibitions on cannabis. However, despite federal and

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international prohibitions, the World Health Organization (WHO) describes widespread cannabis distribution and consumption as follows:

"Cannabis is by far the most widely cultivated, trafficked, and abused illicit drug. Half of all drug seizures worldwide are cannabis seizures. The geographical spread of those seizures is also global, covering practically every country. About 147 million people, 2.5% of the world population, consume cannabis (annual prevalence) compared with 0.2% consuming cocaine and 0.2% consuming opiates. Moreover, cannabis abuse has grown more rapidly than cocaine and opiate abuse, with the most rapid growth in cannabis abuse since the 1960s in developed countries in North America, Western Europe, and Australia." (World Health Organization, 2025, p. 1).

In the current research, the authors adopt the perspective of Mallinson and Hannah, who noted in a 2023 Public Administration Quarterly special issue, "This subject is still prone to jokes and puns, particularly by opponents making political points. However, scholars are giving cannabis in the United States considerable seriousness. It is a significant industry reshaping American drug policy and requires rigorous social science research to understand its implications on citizens and governance" (Mallinson & Hannah, 2023, p. 248).

However, existing research primarily focuses on medical properties and health impacts rather than on business operations. Cannabis businesses are uniquely interesting to study for many reasons, including the interstate commerce prohibition on a commodity that could otherwise be transported across state lines and the significant excise taxes placed on sales. In contrast, each state simultaneously seeks to supplant pervasive and resilient unlicensed markets. The regulatory aspects of cannabis legalization also make retail operations particularly worth further exploration. As the industry continues to evolve, cannabis business operators will need to be particularly mindful of best practices while accounting for the unique characteristics of their products. Both the regulatory and marketing environments of the cannabis industry will require these businesses to carefully strategize how they utilize their resources and work with their stakeholders (Kelly et al., 2021).

The lack of research and publications on cannabis businesses could be due to its federal status as a controlled substance, as well as the dynamic nature of the company. For example, the industry drastically changed when the 2018 Farm Bill enacted a loophole for hemp with intoxicating properties to gain widespread sales in states with no legalized recreational cannabis program, such as Texas and its $4 billion intoxicating hemp market (Goodman, 2025). Hence, it may be difficult for research projects to keep pace with the cannabis industry's evolution.

Although business studies related to cannabis are limited, some research exists. For example, Lange et al. (2023) examined interactions between cannabis dispensary sales staff and customers; their findings recommended responsible cannabis sales training and practices to improve the quality of product education, consumer and community safety, and overall sales performance. Other research investigated the Washington State retail license system (Hollenbeck & Giroldo, 2022), the startup boom resulting from Washington state legislative action (Anderson et al.,2019), financial (Parker et al., 2019), supply chain risks (Krause & Pullman, 2021), and a limited look at marketing strategy (Olsen & Smith, 2020) and social media (Bakken & Harder (2023).

Additional inquiry focused on organizational adaptation in changing demand landscapes (Hsu et al., 2019), social identity perspectives (Geiger-Oneto & Simkins, 2018), depression and consumption (Alcoforado et al., 2022), consumer perceptions and adoption of cannabidiol (CBC) products (Choi & Hwang, 2023), meaning and materiality (Huff et al., 2021), and inquiries related to social media response (Aversa et al., 2021), Twitter analysis (Deng et al., 2024; Mann et al., 2022) and motivating intention (Summers & Summers, 2017). However, even less research focuses on industry practices; hence, this exploratory study explicitly examines perceptions of importance and performance in six different areas of business operations: marketing and advertising, financial management, strategic planning, risk mitigation, and operational management. The authors assess business perceptions and performance because they can be studied regardless of legal changes and are

particularly relevant given the challenges and complexities of operating a cannabis business.

Despite common perceptions of cannabis as a booming industry, the reality is that many operators are struggling to survive. Some studies indicate that only about one-quarter of cannabis businesses are profitable (Adams, 2024), suggesting the need to explore and document the one-quarter of cannabis businesses that are profitable (Adams, 2024), and suggesting the need to explore and document business priorities and perceptions more deeply. As states legalize cannabis, businesses are a relatively new phenomenon; business owners are generally new to this area of legalized cannabis.

Although some have operated cannabis businesses before state legalization, the experience of running a state-legalized operation is likely new. Thus, insights into business perception and performance are valuable to this new field of business operators, some of whom are struggling.

Therefore, this exploratory study enables us to examine beliefs regarding the operational aspects of the cannabis business. We also assess perceptions about subtopics in each of these operational areas. Hence, we pose the following overarching research questions related to cannabis business functions:

RQ1: Which business areas of cannabis operations have the most significant gap between perceived importance and performance?

RQ2: What business function causes the most operational anxiety among cannabis firms?

Background and Theoretical Framework

We use Dynamic Capabilities Theory (DCT) to frame our research because the cannabis industry operates in a rapidly changing environment. DCT, introduced by Teece et al. (1997), argues that sustainable competitive advantage in rapidly changing environments is achieved from a firm's ability to sense, seize, and transform dynamically. This ability is based on a company's strengths in detecting environmental shifts, mobilizing resources in response, and reconfiguring organizational capabilities when needed. DCT is particularly relevant to the legal cannabis industry, where firms regularly navigate a complex mix of regulatory changes, consumer preferences, technological advancements, and social norms (Eisenhardt & Martin, 2000; Teece, 2007).

Cannabis firms that integrate DCT into their operations can outperform competitors by embracing agility across their business functions, aligning short-term actions with long-term vision, and allocating resources to support uncertain responses. Given the uncertainty that exists in the cannabis market, DCT plays a unique role in cannabis business operations. Moreover, DCT in the ever- evolving cannabis industry can be applied to each of the six operational areas we examine in the cannabis industry.

Customer Knowledge

Understanding cannabis consumers, whose behaviors are likely shaped by stigma, health, lifestyle, and legal anxieties, requires firms to sense emerging needs and preferences continually. Dynamic Capabilities Theory (DCT) emphasizes that sensing capabilities involve market intelligence, data analytics, and engagement systems that help firms interpret market signals (Teece, 2007). Firms with dynamic sensing capabilities (Vadruccio et al., 2024) gather real-time insights from dispensary POS systems and digital platforms (Gupta & Mukherjee, 2022; Klaus & Kuppelwieser, 2023), enabling them to refine segmentation and anticipate trends. Firms identifying shifts toward wellness-oriented cannabis can adapt formulations and messaging accordingly. In addition, firms should differentiate between medical and recreational users to fully enhance the effectiveness of their campaigns. Given the health importance of medical versus recreational usage, increasing consumer knowledge, both actual and perceived, can play an important role in the ethical and responsible consumption of cannabis. For example, consumers may experience confusion and difficulty making purchase decisions when labels are insufficiently detailed (Al-Hamdani et al., 2021) or when names do not provide sufficient information about product attributes (McFadden et al., 2025).

Strategic Planning

Strategic planning in cannabis is complicated by inconsistent state regulations, uncertain federal reform, and shifting investor sentiment. DCT's strategic value lies in a firm's ability to adapt resources to environmental uncertainty (Teece et al., 1997). Agile firms use scenario planning and modular business models to preserve flexibility. Leading organizations hedge against regulatory risk while maintaining scalability through multi-state operator (MSO) models, international diversification, or brand licensing. Dynamic capabilities involve continuous recalibration in response to macroeconomic signals such as new markets or competitor failures (Peteraf et al., 2013).

Market Structure, Regulatory Fragmentation, and Historical Stigma

A firm's capability encompasses its ability to influence market structures, regulatory outcomes, and social norms through strategic positioning and institutional engagement (Palazzo & Scherer, 2006). Within the cannabis industry, this potential capability is intensified by the regulatory fragmentation and historical stigma surrounding the sector.

Cannabis firms that reach early legitimacy through licensing, branding, and policy influence generally acquire disproportionate control over the industry's evolution. This includes barriers to competition, participants, and the messages that define the market (Adams, 2021; Fairchild & Hathaway, 2022). Because cannabis firms must overcome stigma while addressing related public health issues, building additional capabilities is integral to credibility and growth in the industry. Moreover, allows firms to position themselves as socially responsive players while differentiating their brands in a sensitive retail environment (Kilmer & Pacula, 2017; Subritzky et al., 2016). The relationship between the firm's capabilities is critical in the cannabis industry, where corporate reputation, regulatory compliance, and social equity are foundational to sustainable market participation.

Marketing, Advertising, and Promotion

Strict advertising limits, digital platform restrictions, and stigma shape cannabis marketing. Based on DCT, firms must seize opportunities through creative, compliant, and effective campaigns (Teece, 2007). Successful firms build trust through educational content and experiential events that comply with regulations. Seizing also means pivoting quickly as policies and platform rules evolve (e.g., reallocating marketing resources away from higher-risk influencer campaigns toward compliant, locally controlled channels such as dispensary-based events and experiential activations). Marketing agility and cross-functional coordination are essential.

Financial Management

The cannabis sector faces unique financial hurdles: limited access to banking, tax burdens under the Internal Revenue Code section 280E (Internal Revenue Service, 2020), and volatile investor sentiment. From a DCT lens, transforming capabilities enable firms to reallocate financial resources or find creative capital solutions. Strategies such as vertical integration or market-access alliances improve long-term solvency (Corvino et al., 2020).

Mitigating Risk

Risk mitigation demands continuous learning and the reconfiguration of compliance. DCT highlights organizational learning as critical to the evolution of risk management (Zollo & Winter, 2002). Cannabis firms that formalize compliance training, develop regulatory affairs units, and pursue certifications (e.g., Good Manufacturing Practices (GMP), International Organization for Standardization (ISO)) demonstrate dynamic risk mitigation, turning risk management into a learning system rather than a static function.

Operational Management

Cannabis operations span cultivation, extraction, processing, and logistics. DCT applies through transforming operational routines in response to fluctuations or legal changes (Eisenhardt & Martin, 2000). Firms that employ modular manufacturing, cultivation technologies, and traceability systems exhibit high operational agility. Dynamic operations, such as automation and water recycling, enhance resilience and reduce disruption.

Summary

DCT provides a robust framework for understanding how cannabis firms survive and grow amid turbulence. From customer knowledge to adaptive compliance, DCT explains performance differences across six functional areas, highlighting where firms must improve capabilities to align perceived importance with actual performance.

METHODS

To address the first two research questions and better understand the six areas we sought to research, we developed a structured questionnaire to survey employees, managers, and owners within the retail cannabis industry.

Questionnaire Development, Reliability, and Validity

Because limited academic work exists examining the business and marketing challenges faced by cannabis operators, the questionnaire was developed as an exploratory diagnostic instrument rather than a test of previously validated scales. Specifically, the goal was to identify salient areas of concern among cannabis businesses and to compare perceived importance, perceived performance, and specific operational challenges across several business domains.

Item development followed an exploratory, content-driven process consistent with recommended procedures for early-stage measure development (e.g., Boateng et al., 2018; Churchill, 1979). First, we specified the focal domain as the business challenges faced by operators in the legal cannabis marketplace. Second, we created an initial pool of items based on informal conversations with cannabis industry participants and a general review of practitioner, policy, and industry materials addressing cannabis business operations, marketing restrictions, compliance burdens, taxation, financial services, risk management, and competition from illicit or less-regulated markets. Third, the items were organized into six broad categories that reflected recurring managerial challenge areas: customer knowledge; advertising, marketing, promotion, and events; financial management; strategic planning; risk mitigation; and operational management.

The questionnaire was designed to capture both broad and specific assessments. Respondents first rated the importance of each of the six categories and then rated their firm's overall performance in each of those six categories. They also ranked the six categories by level of concern and identified the single area that caused the most concern. The survey then asked respondents to evaluate performance on several specific activities within each category, including customer acquisition and retention, advertising development and evaluation, budgeting and forecasting, regulatory and tax compliance, new product development, cybersecurity, fraud, shrinkage, supplier relationships, employee recruitment/training/retention, and process standardization.

Given the exploratory purpose of the study, validity evidence is primarily content- and face-based. Content validity was supported by grounding the questionnaire in recurring cannabis-industry issues identified through industry conversations and practitioner/policy sources. Face validity was supported by the apparent alignment between the items and the practical business functions cannabis operators routinely manage.

Because several questionnaire items used single-item indicators, traditional internal-consistency reliability estimates do not apply to these measures. Specifically, the six overall importance items and six overall performance items were intended to serve as broad diagnostic indicators rather than reflective multi-item scales. Moreover, none of the individual items were combined into composite scores, because these items serve simply as formative indicators of distinct business activities rather than interchangeable reflective indicators. When items are analyzed individually, internal consistency reliability is not required.

In short, the survey instrument was designed to measure perceptions across six core operational categories: customer knowledge; advertising, marketing, promotion, and events; financial management; strategic planning; mitigating risk; and operational management. For each functional area, respondents evaluated specific business practices using two distinct 5-point scales. The first scale measured perceived importance (Q02 in

the data), with respondents rating the criticality of each function to their business success on a scale from 1 (Not at all important) to 5 (Extremely important). The second scale, represented as Q03, measured perceived performance, with respondents rating their firm's current execution in that area on a scale from 1 (Poor performance) to 5 (Excellent performance). Means were calculated by summing the item scores and averaging.

Sample

We utilized Dun and Bradstreet's Hoover's repository to identify a target population of cannabis dispensaries and retail business professionals, drawing an initial sample of 6,904 individuals who fit our professional criteria and have not opted out of email marketing. Following University IRB approval, an electronic survey link was distributed to the sample. Data collection faced significant hurdles due to the industry's dynamic nature; a high volume of emails bounced or generated auto-replies, indicating that the listed employees were no longer with the firms. To mitigate this, we supplemented the initial list by scouring professional web directories and incorporating alternative names provided in auto-responses. This process yielded a final usable sample of 198 industry professionals, resulting in a 2.87% response rate. While modest, this rate is consistent with research in highly regulated and stigmatized sectors where participant hesitation and database decay are prevalent.

Firmographics

The responding companies spanned a wide range of firm types, with 61.1% of survey respondents working at companies that offer both recreational and medical cannabis products. Regarding distribution channels, 64.6% of these firms provided products through both online and offline platforms. Most participating businesses were not franchise-based and primarily served local markets. In terms of operational longevity and size, 73.2% of respondents reported being in business for over five years, and 56% of the firms had fewer than 200 employees. Detailed firmographic data for the responding sample is presented in Tables 1 through 6.

Table 1. *Firm Marketplace Offerings (Type)*

Offering	Percent
Medical Product Only	6.1%
Recreational Products Only	18.2%
Both Recreational and Medical	61.1%
Missing	14.6%
Total	100%

Table 2. *Firm Marketplace Offerings (Online/Offline)*

Offering	Percent
Online Only	4.5%
Offline Only	16.2%
Both Online and Offline	64.6%
Missing	14.6%
Total	100%

Table 3. *Franchises*

Franchise	Percent
Yes	5.1%
No	74.2%
Not Sure	2.0%
Missing	18.7%
Total	100%

Table 4. *Geographic Presence*

Franchise	Percent
Local	51.5%
National	26.3%
International	7.6%
Missing	14.6%
Total	100%

Table 5. *Years in Business*

Years in Business	Percent
Less than 1 year	1%
1-3 years	2.5%
3-5 years	8.6%
More than 5 years	73.2%
Missing	14.6%
Total	100%

Table 6. *Number of Employees*

Number of Employees	Percent
Under 10	12.6
11-25	10.1
26-50	12.1
51-100	10.6
101-150	7.1
151-200	3.5

RESULTS

Category Means

Simple means were taken as the average of each item. Of the six categories (Figure 1), financial management is considered the most important (M = 4.45), followed by operational management (M = 4.38), strategic planning (M = 4.31), marketing (M = 4.16), mitigating risk (M = 4.15), and customer knowledge (M = 3.76). This aligns with a ranking question about the most concerning category. Given these six categories or "none," 34.8% identified financial management as the category that keeps them "up at night." However, the second most concerning area was mitigating risk; 16.2% identified it as their key concern.

Gap Analysis

Figure 1 shows the five areas where a significant difference was revealed between the perceived importance of that particular item and the perceived performance of that item. That is, the gap is simply the difference between the mean perception, perceived performance, and the mean perceived importance. Although customer knowledge was identified as the least important category, it is the only one in which performance perceptions (M_{perf} = 3.66) did not differ significantly from importance (M_{imp} = 3.76), suggesting that these companies may have performed as expected relative to customer knowledge. This gap analysis between importance and performance perceptions is presented in Table 7. To examine whether cannabis operators perceived gaps between the importance of core business domains and their firm's current performance in those domains, paired-samples t-tests were conducted comparing each importance rating with the corresponding performance rating. The difference scores were calculated as importance minus performance; thus, positive values indicate that respondents viewed the domain as more important than their firm's current performance.

Results revealed significant importance–performance gaps for five of the six domains. The largest gap emerged for Advertising, Marketing, Promotion, and Events (Mdiff = .954, t(196) = 8.590, p < .001), indicating that respondents perceived marketing-related activities as highly important but rated their firms' performance substantially lower. Significant gaps also emerged for Financial Management, M_{diff} = .731, $t(196)$ = 6.270, p < .001; Strategic Planning, M_{diff} = .684, $t(195)$ = 6.011, p < .001; Operational Management, M_{diff} = .492, $t(196)$ = 4.555, p < .001; and Mitigating Risk, M_{diff} = .393, $t(195)$ = 3.602, p < .001. Customer Knowledge was the only domain for which the importance–performance gap was not statistically significant (M_{diff} = .091, t(196) = .806, p = .421).

These results suggest that cannabis operators perceive meaningful capability gaps in most areas of business management, particularly in marketing-related functions. The nonsignificant gap for Customer Knowledge may indicate that firms view their current customer-related capabilities as more closely aligned with perceived importance. In contrast, advertising, financial management, strategic planning, operations, and risk mitigation represent areas where perceived importance outpaces performance. Hence, aside from customer knowledge, every category showed a significant difference between perceived importance and perceived performance, indicating that firms have considerable opportunities for improvement across all functional areas to achieve a level of perceived performance consistent with their beliefs about the importance of that issue.

Figure 1. *Importance vs. Performance Ratings*

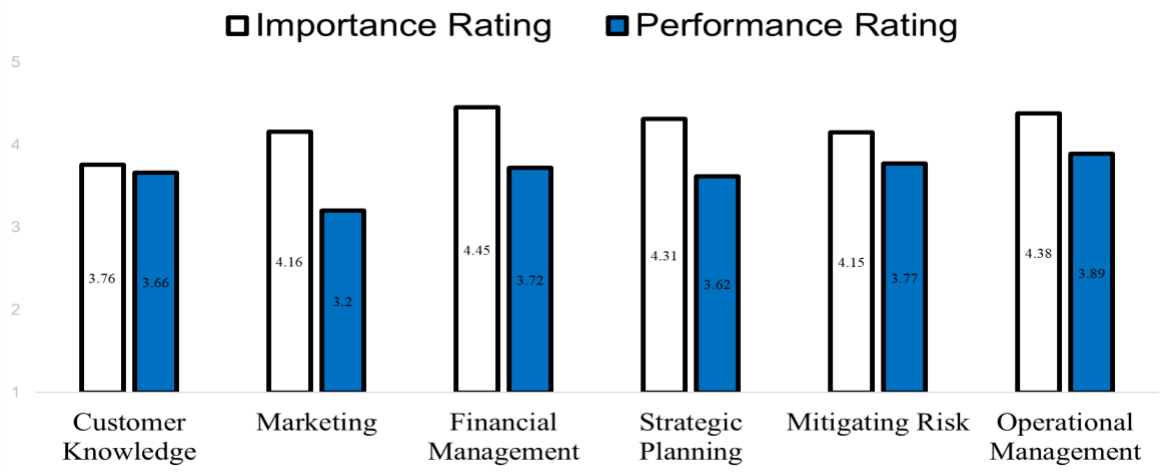


Table 7. *Importance–Performance Gap Analysis*

	Paired Differences							Significance	
	Mdiff.	*Std. Deviation*	*Std. Error Mean*	*Lower*	*Upper*	*t*	*Df*	*One-sided p*	*Two-Sided p*
Knowledge imp. vs. perf.	.091	1.591	.113	-.132	.315	.806	196	.211	.421
AMPE imp. vs. perf.	.954	1.559	.111	.735	1.173	8.590	196	<.001	<.001
FM imp. vs. perf.	.731	1.636	.117	.501	.961	6.270	196	<.001	<.001
SP imp. vs. perf.	.684	1.592	.114	.459	.908	6.011	195	<.001	<.001
MR imp. vs. perf.	.393	1.527	.109	.178	.608	3.602	195	<.001	<.001
OM imp. vs. perf.	.492	1.517	.108	.279	.706	4.555	196	<.001	<.001

Notably, none of the overall means for the six perceived-performance categories reached 4.0 (on a scale of 1-5). That is, while employees feel their company is performing above average (3.0) across all areas, the results indicate they do not believe they are performing well above average in any of the six functional areas.

Functional Area Analysis

Our results offer insight into the significant gaps between importance and performance in six defined functional categories for cannabis industry professionals. The most critical gap was observed in advertising, marketing, and promotional events, while, interestingly, the customer knowledge category showed no significant difference between importance and performance. For cannabis businesses seeking to improve their identified business practices, evaluating advertising effectiveness (the lowest mean score across all six categories, 2.55), event and promotional effectiveness (2.73), and advertising placement (2.80) is most needed. Advertising, marketing, and promotion are essential in an industry competing for market share against unlicensed distribution (Detrano, 2025). It is also worth noting that the lowest mean score within the customer knowledge category is customer profiling and targeting (2.88), reinforcing the need for advertising, event, and promotional effectiveness. (as indicated in Table 9).

In the customer knowledge category (Table 8), where importance and performance were equal, customer profiling and targeting were ranked lowest in perceived performance. This is an important finding, given that customers use different cannabis forms for various reasons.

That is, several different target markets likely exist. Even more disconcerting is that, based on the overall findings, respondents may not feel this is particularly important. Public health officials and advocates would likely support more comprehensive efforts to improve customer knowledge of what is being sold and consumed.

Table 8. *Perceived Performance of Customer Knowledge*

Customer Knowledge	Mean
Customer Acquisition	3.22
Customer Retention	3.72
Customer Profiling & Targeting	2.88
Understanding the Customer Journey	3.30

Table 9. *Perceived Performance of Advertising, Marketing, Promotion & Events*

Advertising, Marketing, Promotion & Events	Mean
Developing Advertising	2.96
Placing Advertising	2.80
Evaluating Advertising Effectiveness	2.55
Developing Events & Promotions	3.04
Executing Events & Promotions	3.27
Evaluating Event & Promotion Effectiveness	2.73
Search Engine Optimization	3.02
Competitive Differentiation	3.30
Branding	3.71
Messaging	3.25
Support from Franchisor	2.73

In the financial management category, two mean scores indicate attention to the general economic environment (e.g., dealing with a potential recession) at 2.88 and to raising capital for future growth at 2.91. There were several high means in the category, including those tied to a regulated industry and complying with state and federal tax regulations (4.32), inventory tracking (3.95), and operating in a cash-only environment (3.81). (See Table 10).

As shown in Table 11, in the strategic planning category, the lowest mean was 2.72 for identifying and using consultants or coaches to solve business problems, and the next highest was business SWOT analysis and the competition at 3.00. Highs in this category include product mix optimization (3.71) and keeping abreast of new product development (3.70).

Table 10. *Perceived Performance of Financial Management*

Financial Management	Mean
Inventory Tracking	3.95
Operating in a Cash-Only Environment	3.81
Budgeting and forecasting	3.38
Anticipating paying taxes	3.76
The general economic environment (e.g., dealing with a potential recession)	2.88
Growing your business	3.13
Raising capital for future growth	2.91
Complying with state and federal tax regulations	4.32

Table 11. *Perceived Performance of Strategic Planning*

Strategic Planning Element	Mean
Keeping abreast of new product development	3.70
Product mix optimization	3.71
Devising Key Performance Indicators to monitor progress toward objectives	3.38
Identifying and using consultants or coaches to solve business problems	2.72
Formulation of your company's mission and vision	3.51
SWOT analyses of your business and the competition	3.0

Table 12. *Perceived Performance of Mitigating Risk*

Mitigating Risk	Mean
Cybersecurity	3.32
Fraud	3.49
Shrinkage	3.46
Competing with the black market	2.80
Complying with regulatory changes	4.26

Table 13. *Perceived Performance of Operational Management*

Operational Management	Mean
Identifying suppliers/vendors	4.07
Inventory management	3.84
Supplier/vendor relationships	4.01
Supply chain disruptions	3.39
Daily task completion, prioritization, and "getting through each day"	3.78
Standardizing and Optimizing processes	3.76
Recruiting Employees	3.30
Training Employees	3.43
Retaining Employees	3.41

In the mitigating risk category (see Table 12), one standout had a low mean of 2.80 for competing with the illegal market, and another standout had a high mean of 4.26 for complying with the regulatory changes, which is again indicative of the scrutiny the industry faces and is tied to the earlier financial management high scores. However, given the still vast presence of the illegal market, which is driving down cannabis prices, competing with the unlicensed market should be identified as an area of concern.

Means for the subareas of operational management are presented in Table 13. This reveals several lower mean scores that clustered together, including recruiting employees (3.30), supply chain disruptions (3.39, retaining employees (3.41), and training employees (3.43).

Interventions around employee recruitment/training/retention seem ripe for return on investment (ROI), and, of course, supply chain disruptions are also a concern, but a different focus for the leadership team. Strengths in the operational management area include identifying suppliers/vendors (4.07) and supplier/vendor relationships (4.01). It is interesting to consider and contrast these two high supplier/vendor scores with the low mean for concern about supply chain disruptions.

DISCUSSION

Our research reveals three key findings: (1) perceived importance of business areas, (2) performance gaps, and (3) areas of most significant concern. Across all areas, financial management, operational management, and strategic planning were rated most important,

underscoring the centrality of financial oversight in a tightly regulated industry.

Performance ratings lagged across every category, with the largest deficit in advertising, marketing, promotion, and events, highlighting a lack of agility in retail-facing capabilities.

Strategic planning and customer knowledge also showed shortfalls, suggesting missed opportunities to adapt strategy and leverage consumer insights. Financial management emerged as the most pressing concern, followed by operations and marketing. While customer knowledge was rated least concerning, low scores in profiling and targeting suggest untapped market opportunities.

Results depict an industry marked by regulatory turbulence, operational urgency, and strategic execution gaps. These conditions mirror those in other regulated, cash-dependent sectors such as alcohol and gaming, where firms understand the priorities yet lack the resources or training to act effectively. The pronounced gap between importance and performance in marketing and promotion may be influenced by, or even intertwined with, the challenge of competing with unlicensed markets. The licensed market competes not only with other licensed operations but also with market actors that do not comply with state advertising and marketing laws and regulations.

Therefore, the licensed operators may struggle to bridge the gap between understanding the need for marketing and advertising and performing at a level that effectively competes with unlicensed operations. This consideration would be an interesting area for further exploration. Among other possible areas for improvement, collaborative initiatives through trade associations such as the National Cannabis Industry Association or the Cannabis Media Council may help firms pool knowledge and strengthen their competitiveness in the licensed market.

Weaknesses in consumer knowledge could align with fragmented state regulation. The absence of national standards for dosage and labeling undoubtedly limits consumer understanding and impedes consistent marketing communication (Strategies 64, 2024; Meek et al., 2024). Standardized labeling, analogous to alcohol's ABV system, could clarify dosage, enhance safety, and distinguish regulated products from unlicensed ones. Harmonized state requirements could improve transparency, reduce confusion, and bolster trust in legal products.

These findings provide an initial possible roadmap for managers to improve agility in marketing, financial management, and workforce development. Enhancing scenario-based strategic planning, refining consumer analytics, and strengthening financial controls will enable firms to adapt more effectively. Issues such as recruitment, retention, and training are underdeveloped areas with the potential for measurable returns through improved operational resilience.

From a theoretical perspective, the findings reinforce Dynamic Capabilities Theory (DCT; Teece et al., 1997), emphasizing that resilience in volatile markets depends on continuous reconfiguration of competencies. Firms that can sense evolving consumer preferences, seize compliant promotional opportunities, and transform operations amid regulation will likely gain a sustained advantage. This aligns with Dominique-Ferreira (2018), who highlights the critical role of intermediaries in shaping the consumer experience and loyalty.

Our results extend DCT by demonstrating its relevance to highly regulated retailing environments. Cannabis firms exhibit strong sensing capabilities, particularly in compliance and financial management, but struggle to seize and transform marketing and consumer engagement opportunities. Overemphasis on compliance, imposed by state regulatory frameworks, may divert resources from innovation and customer insight, weakening long-term competitiveness.

This study bridges retail management and cannabis business strategy, showing how dynamic capabilities foster legitimacy and resilience in a stigmatized, rapidly expanding industry. The most urgent capability gaps, marketing agility, consumer profiling, and promotional effectiveness, are central to competitive differentiation. Industry collaboration and consistent marketing standards are essential as legalization expands.

Limitations and Future Research

While this study offers new insights into cannabis business operations, several limitations

warrant consideration. The final sample size was modest, limiting generalizability. Low response rates likely reflect outdated commercial databases, email filtering, and participant hesitation to engage in cannabis-related research. Future studies should explore alternative recruitment channels and larger, more representative samples.

Regulatory fragmentation across states constrains the standardization of business practices. States vary widely in their oversight of marketing, taxation, and compliance, creating challenges for comparative research. Some states delegate operational decisions (e.g., testing or collections) to firms, while others regulate them directly. Future research should examine how differing state governance models shape firm performance and capability development.

Cross-jurisdictional and longitudinal studies could further illustrate how firms evolve strategic agility and dynamic capabilities over time. Comparative analyses of retail formats, digital engagement, and supply chain adaptation would enhance understanding of how cannabis retailers respond to shifting legal and market conditions.

Methodologically, self-reported data introduce the possibility of bias and social desirability effects. Future research should combine surveys, interviews, and performance data to triangulate and validate findings. Empirical studies could isolate specific dynamic capabilities, such as regulatory sensing or digital engagement, to test their effects on firm outcomes.

Moreover, examining product-category differences (e.g., flower, edibles, beverages) could reveal nuanced applications of DCT within sub-sectors of the cannabis market. Finally, future research should advance the current research by refining the item pool, conducting cognitive interviews or a formal expert review, and using exploratory and confirmatory factor analyses to establish dimensionality, convergent validity, discriminant validity, and predictive validity.

Conclusions

This study highlights the critical gap between the perceived importance and performance of core business functions in the cannabis industry. Although firms understand the strategic value of financial management and operational efficiency, results indicate they lag in executing marketing, consumer profiling, and promotional strategies. From a Dynamic Capabilities Theory perspective, the challenge lies not in sensing what is important but in transforming these insights into practical action.

The implications are clear: success in this industry requires greater knowledge and investment in customer insights, retail analytics, and agile marketing strategies. While our focus is on the business aspects of the cannabis industry, future research should also examine how it differs from other industries that may place less emphasis on consumer health and risk. While some research identifies cannabis consumers as potentially vulnerable to these products (e.g., Al-Hamdani et al., 2021), other research identifies cannabis legalization as having numerous benefits to society when firms market in safe and appropriate ways (e.g., Newman et al.,2021).

In sum, cannabis businesses are clear about their strategic priorities but struggle in execution. This is particularly important within the DCT framework, which recognizes dynamic capabilities across the firm. By addressing marketing inefficiencies and financial anxieties and by ensuring the ability to evolve with the market, cannabis firms can build resilience and competitive advantage in a contested, rapidly evolving space.

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