

Causal factors of market demand affecting the growth and profitability of cannabis business

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Abstract: The cannabis business is emerging as one of the fastest-growing industries worldwide, driven by changes in legislation across various countries that have begun to permit the use of cannabis for both medical and recreational purposes. However, the industry continues to face several challenges, including the lack of stringent quality control, existing legal restrictions in many regions, and market regulatory uncertainties. The objectives of this research are: 1) to examine the causal factors influencing market demand, growth, and profitability in the cannabis business, 2) to analyze the influence of market demand's causal factors on growth and profitability, and 3) to develop a causal model of market demand factors that impact the growth and profitability of the cannabis business. The researcher collected data through interviews and online questionnaires targeting cannabis entrepreneurs between February and March 2025, with a sample size of 400 respondents. The analysis results indicate that consumer accessibility significantly affects market demand, consumer accessibility influences growth and profitability through market demand, investment levels impact market demand, investment levels affect growth and profitability through market demand, and market demand itself directly affects growth and profitability. Based on these findings, cannabis entrepreneurs can better plan for business expansion and develop market-driven strategies focused on profitability and value creation while optimizing capital utilization to respond effectively to market demand.

Keywords: Consumer accessibility, Growth and profitability, Investment levels, Market demand.

1. Introduction

The cannabis business is rapidly becoming one of the fastest-growing industries worldwide, driven by legislative reforms in many countries that have begun to allow the use of cannabis for both medical and recreational purposes [1]. The expansion of the cannabis business is also evident from the increasing number of producers and suppliers entering the market, as well as a rise in investment levels from both public and private sectors [2]. However, this growth is not without challenges, including intense market competition, legal and regulatory uncertainties, and limitations in consumer accessibility to the market. Previous studies have explored how market demand influences growth and profitability, including research conducted by Chen and Zhang [3]; Evans and Johnson [4]; Jackson and Roberts [5]; Harris and Thompson [6] and Smith and Patel [7].

This study collected data from cannabis business operators through interviews and online surveys conducted between February and March 2025. The qualitative sample included entrepreneurs from three sectors: 1) upstream (cannabis cultivators), 2) midstream (extraction facilities), and 3) downstream (producers of cannabis-based products). The quantitative sample consisted of 400 cannabis business operators across six regions of Thailand: north, central, northeast, east, west, and south. The sample size was determined using structural equation modeling methods.

The expected outcome of this research is to support cannabis business entrepreneurs in planning for growth and profitability by developing marketing strategies focused on value creation and efficient capital utilization, aligned with actual market demand.

This study is grounded in systems theory and investigates key empirical variables influencing consumer accessibility, investment levels, market demand, and ultimately growth and profitability. The findings are anticipated to be beneficial not only to the cannabis business sector but also to academics, researchers, and students who wish to further explore or build upon this integrated model.

2. Research Objective

1. To study the causal factors that affect market demand and the growth and profitability of the cannabis business.
2. To examine the influence of causal factors of market demand on the growth and profitability of the cannabis business.
3. To develop a model of the causal factors of market demand that impact the growth and profitability of the cannabis business.

3. Literature Review

The concepts and theories used in this research encompass consumer accessibility, investment levels, market demand, and growth and profitability, as discussed in the background and significance of the study. These variables were used to construct the conceptual framework, and the relationships among them are considered as follows:

Hypothesis 1: The Relationship between Consumer Accessibility and Market Demand

Nautiyal and Lal [8] emphasized the current state of organic consumption and the disconnect between actual market conditions and consumer expectations in emerging organic markets.

Oktavia, et al. [9] studied the effects of price perception, consumer income, and preferences on demand for tourism services, using Sea World Ancol as a case study.

Peng, et al. [10] developed centralized and decentralized decision-making models and solved the problem using differential game methods.

Hypothesis 2: The Relationship between Consumer Accessibility and Growth and Profitability through Market Demand

Thannithi, et al. [11] examined cost structures, marketing channels, and profitability in small-scale beef production systems in Phayao Province, Thailand.

Yeni, et al. [12] investigated the relationship between sales growth, capital structure, and corporate governance on financial performance in Indonesia's non-cyclical consumer goods sector.

Olubiyi [13] noted that small businesses play a vital role in promoting sustainability and meeting the increasing demand of environmentally conscious consumers.

Hypothesis 3: The Relationship between Investment Levels and Market Demand

Verma, et al. [14] stated that high-energy investment decisions by consumers can disrupt the balance of supply and demand in the electricity market.

Mahida [15] analyzed the impact of technological development, foreign direct investment (FDI), and government regulation on the growth dynamics of India's durable consumer goods industry.

Yu and Feng [16] explained that green credit financing (GCF) is a financial service banks offer to encourage borrowers to invest in environmentally sustainable projects and promote sustainable development.

Hypothesis 4: The Relationship between Investment Levels and Growth and Profitability through Market Demand

Fahmi, et al. [17] analyzed the effects of liquidity and profitability on the investment opportunity set (IOS) in consumer goods companies listed on the Indonesian stock exchange.

Purwaningrum, et al. [18] explored how profitability, investment decisions, and sustainability disclosure affect firm value, using ROE to measure profitability, CVA/BVA for investment decisions, SRDI for sustainability disclosure, and Tobin's Q to evaluate firm value.

Raharidan and Fitriyah [19] asserted that the mining sector continues to attract investors due to its unique characteristics, distinguishing it from other industrial sectors.

Hypothesis 5: The Relationship between Market Demand and Growth and Profitability

Haryono, et al. [20] examined the effects of supplier collaboration, transportation efficiency, technology adoption, and market demand on distribution performance and profitability in Indonesia's pumpkin seed supply chain.

Majka [21] suggested that penetration pricing is a strategy used by firms to enter competitive markets by initially offering products or services at lower prices.

Szwarc, et al. [22] proposed a declarative simulation framework aimed at balancing the three pillars of profitability, cost optimization, and sustainability in the platform-as-a-service (PaaS) market.

4. Research Framework

This study is a mixed-methods research that integrates both qualitative and quantitative approaches. The conceptual framework is based on systems theory, in which the researcher defines the system as consisting of four main components: (1) inputs, (2) processes, (3) outputs, and (4) feedback. These components can be described as follows:

Input refers to consumer accessibility, which includes five subcomponents: (1) usability, (2) support, (3) affordability, (4) feedback, and (5) legality. It also includes investment levels, which consist of five subcomponents: (1) return on investment, (2) risk-adjusted return, (3) capital allocation, (4) portfolio diversification, and (5) liquidity.

Process refers to market demand, which includes five subcomponents: (1) sales volume, (2) market share, (3) customer acquisition, (4) lead conversion, and (5) customer retention.

Output refers to growth and profitability, comprising five subcomponents: (1) revenue growth, (2) profit margin, (3) return on assets, (4) earnings before interest and taxes (EBIT), and (5) return on equity.

Feedback refers to the influence of growth and profitability (as the output) that loops back and affects consumer accessibility, investment levels, and market demand.

All four components are interconnected and indispensable. Any changes in one component will directly affect the others. Deficiencies or errors in one component will consequently impact the entire system. The details are as follows:

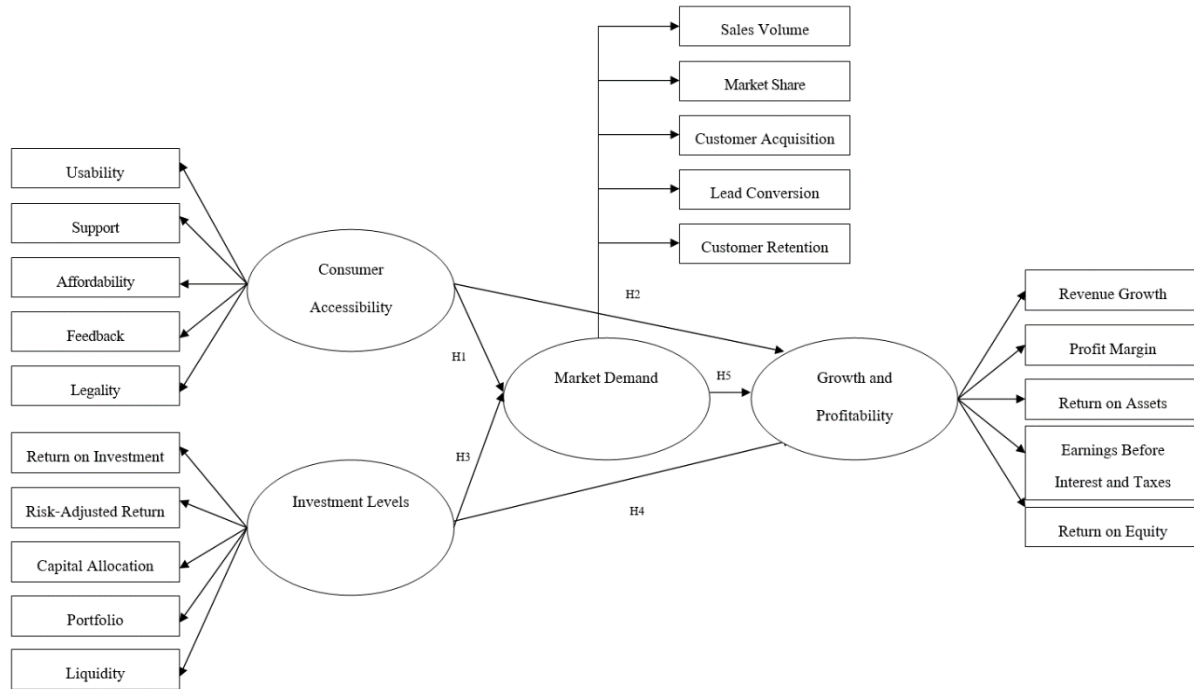


Figure 1.
Research Framework.

5. Research Methodology

This study employed a mixed-methods approach. The research area consisted of data collection from the cannabis business across six regions of Thailand: (1) north, (2) central, (3) northeast, (4) east, (5) west, and (6) south.

The population comprised 1,471 cannabis businesses (based on corporate data from the Department of Business Development, 2025). The sample consisted of 400 cannabis businesses, selected using structural equation modelling (SEM) techniques. According to the conceptual framework, the study included four latent variables and twenty observed variables. Following Hair, et al. [23] the recommended sample size should be 15 to 20 times the number of observed variables, making the ideal range 300 to 400 participants - thus confirming that the sample size is statistically appropriate for multivariate analysis.

Two instruments were used in this study:

1) Questionnaire, which included five parts: Part 1: General organizational information of respondents, Part 2: Consumer accessibility, Part 3: Investment levels, Part 4: Market demand, Part 5: Growth and profitability.

The draft questionnaire was reviewed by five experts to assess content validity using the Index of Item-Objective Congruence (IOC), which resulted in an average IOC score of 0.8433. The reliability of the instrument was tested, yielding a Cronbach's alpha of 0.7317. These tools were used to study the causal factors of market demand affecting the growth and profitability of the cannabis business.

2) Interview - The interview questions were designed to explore key aspects related to the research variables. The questions were as follows:

- What factors influence consumer accessibility in the cannabis market?
- What do investors look for when considering investment in the cannabis business?
- How does market demand for cannabis differ across regions, and what factors drive that demand?

- How do adjusting marketing strategies to improve consumer accessibility to cannabis products affect business growth?
- How does the investment level in research and development (R&D) impact the profitability and market expansion of the cannabis business?
- How do changes in regulations and controls within the cannabis industry affect growth and profitability?

The researcher conducted in-depth interviews during February to March 2025. The collected data were analyzed and synthesized, then described using narrative methods. Content analysis was also employed to support the development of a model derived from the quantitative findings.

Table 1.
Research Findings.

Objective 1	Research Findings
Consumer Accessibility	The findings revealed that respondents had a high level of agreement regarding consumer accessibility. When analyzed by subcomponents, all five aspects were rated at a high level. The most highly rated dimensions were support and affordability, followed by usability, legality, and feedback, respectively.
Investment Levels	The findings revealed that respondents had a high level of agreement regarding overall investment levels. When examined across the five subcomponents, the ratings were all high. The highest-rated aspect was risk-adjusted return, followed by capital allocation, portfolio diversification, return on investment, and finally, liquidity.
Market Demand	The findings revealed that respondents had a high level of agreement regarding market demand. When broken down by the five components, all were also rated highly. The most significant factor was customer acquisition, followed by lead conversion, sales volume, customer retention, and the lowest-rated aspect was market share.
Growth and Profitability	The findings revealed that respondents had a high level of agreement concerning growth and profitability. When analyzed by the five subcomponents, the highest-rated factor was earnings before interest and taxes (EBIT), followed by profit margin, revenue growth, return on assets, and the lowest was return on equity.
Objective 2	Research Findings
Consumer Accessibility (CSAS)	Had a positive direct influence on market demand (MKDM), with a direct effect size of 0.20, which is statistically significant at the 0.01 level.
Consumer Accessibility (CSAS)	Had a positive direct influence on growth and profitability (GWPF), with a direct effect size of 0.27, which is statistically significant at the 0.01 level.
Investment Levels (IVLV)	Had a positive direct influence on market demand (MKDM), with a direct effect size of 0.75, which is statistically significant at the 0.01 level.
Investment Levels (IVLV)	Had a positive direct influence on growth and profitability (GWPF), with a direct effect size of 0.74, which is statistically significant at the 0.01 level.
Market Demand (MKDM)	Had a positive direct influence on growth and profitability (GWPF), with a direct effect size of 0.15, which is statistically significant at the 0.05 level.
Consumer Accessibility (CSAS) and Investment Levels (IVLV)	Had positive indirect effects on growth and profitability (GWPF) through market demand (MKDM). The indirect effect sizes were 0.21 and 0.24, respectively, which are statistically significant at the 0.01 and 0.05 levels.

6. Research Findings

Objective 3: The research findings indicate that the development of the model, based on exploratory analysis and synthesis, led the researcher to name the proposed model of market demand affecting growth and profitability as the Market Demand for Growth and Profitability Model (MDGP Model).

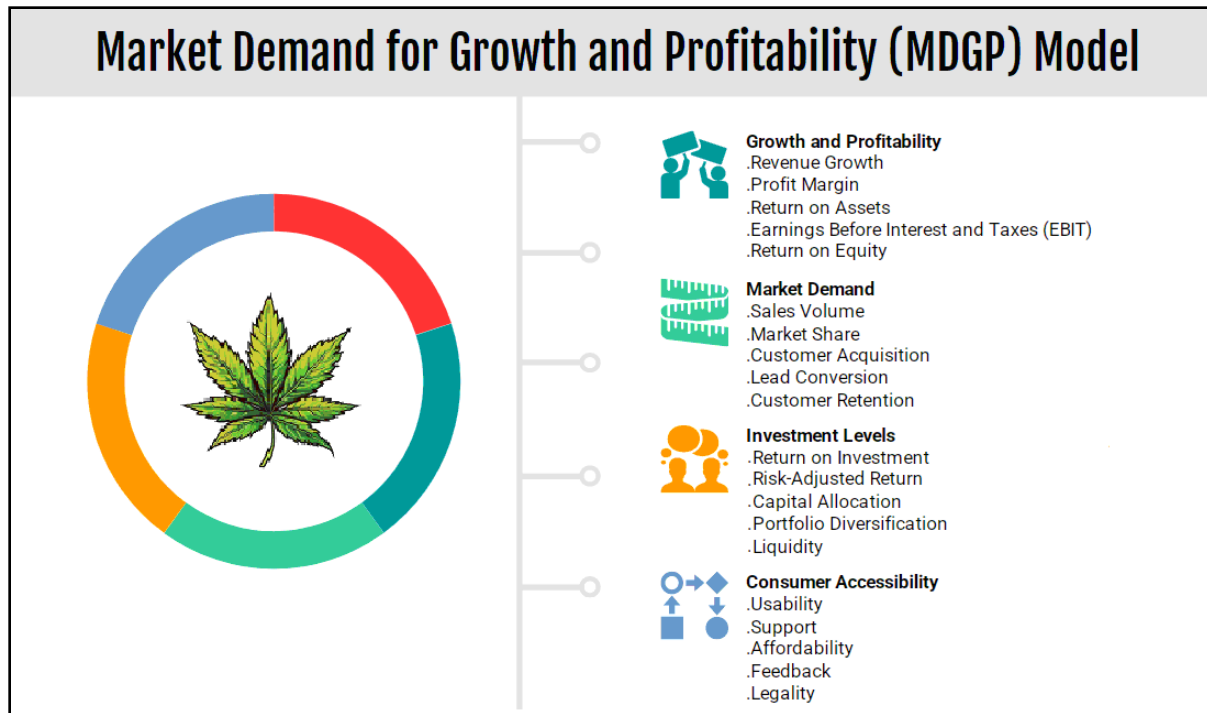


Figure 2.
Market Demand for Growth and Profitability Model.

7. Discussion

The findings from Objective 1 and 2 reveal that:

- Consumer accessibility influences growth and profitability through market demand, with statistical significance at the 0.01 level. This suggests that consumer accessibility has an indirect effect on business growth and profitability, mediated by market demand. The results indicate that when consumers have greater access to products and services, it stimulates increased market demand. This rising demand becomes a key factor contributing to revenue growth and enhanced profitability. These findings align with the study by Thannithi, et al. [11].
- Investment levels affect market demand, with statistical significance at the 0.01 level. This implies that investment levels have a significant influence on market demand. When businesses increase investment in areas such as product development, technology, or marketing, it stimulates consumer interest and demand. The analysis results, significant at the 0.01 level, reflect a clear positive relationship between investment levels and market demand, consistent with the findings of Verma, et al. [14].
- Investment levels also influence growth and profitability through market demand, with statistical significance at the 0.01 level. This indicates an indirect effect of investment levels on growth and profitability, with market demand acting as a mediating variable. Increased investments - such as enhancing product quality, expanding distribution channels, or promoting marketing efforts - stimulate greater market demand, which in turn drives business growth and profitability. This conclusion is supported by Fahmi, et al. [17].
- Market demand directly affects growth and profitability, with statistical significance at the 0.01 level. This shows that rising market demand provides businesses with greater opportunities to expand their customer base, increase sales, and generate more revenue, ultimately resulting in

significantly higher growth and profitability. This finding is consistent with the study by Haryono, et al. [20].

The findings related to research objective 3 indicate that the results from the in-depth interviews contributed to the development of a causal relationship model of market demand that affects growth and profitability.

8. Research Contribution

Based on the research findings, this study provides academic insights into the causal factors of market demand that influence growth and profitability in the cannabis business. The results help deepen the understanding of the relationships and impacts among variables related to market demand and growth and profitability. These findings can be further developed and extended for academic purposes, serving as a foundation for future research and application in other related fields.

9. Conclusion

In summary, the cannabis business may face challenges related to capital shortages or insufficient investment levels, which can hinder its ability to expand the market or develop new technologies that enhance production efficiency and meet consumer demand. These challenges are often due to limited access to funding sources in certain countries, especially where investment in the cannabis business is not yet widely accepted at the international level. This study collected data from online questionnaires and in-depth interviews with cannabis business operators. The analysis revealed that consumer accessibility influences market demand; consumer accessibility also affects growth and profitability through market demand. Similarly, investment levels impact market demand, and also influence growth and profitability through market demand. Lastly, market demand directly affects growth and profitability. These findings suggest that entrepreneurs can plan for sustainable growth by developing marketing strategies that focus on profitability and value creation, while improving capital utilization to expand their businesses and better respond to changes in market demand.

10. Recommendation

For future research, the proposed causal model of market demand affecting growth and profitability should be validated to ensure its consistency with empirical data. Additionally, future studies should investigate other important factors that may serve as causal variables influencing market demand and its effect on growth and profitability, as several relevant variables were not examined in this study. These factors include consumer behavior and social values, which involve changes in attitudes, cultural norms, and societal acceptance of cannabis use. This is particularly relevant among younger generations and new consumer segments, where different levels of acceptance may influence market demand. Product quality and innovation are also essential, referring to the development of new product formulas, diversified consumption formats, and technologies related to cannabis processing and packaging, all of which can enhance consumer interest and drive demand. Moreover, product pricing and market competitiveness play a role. Reasonable pricing compared to product quality and market competitors, along with efficient production costs, may significantly affect consumer purchasing decisions. Government policies and legal support are equally important, including the clarity and accessibility of licensing systems, quality control regulations, and investment promotion policies, which together shape the business environment. Lastly, marketing strategies and brand development are crucial, as methods for building brand awareness and consumer trust can directly influence repeat purchases and brand loyalty.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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